



STIC Search Report

Biotech-Chem Library

STIC Database Tracking Number: 171462

**TO: David Fox
Location: REM/2C09/2C18
Art Unit: 1638
Tuesday, November 29, 2005
Case Serial Number: 10/808979**

**From: Barb O'Bryen
Location: Biotech-Chem Library
Remsen 1a69
Phone: 571-272-2518**

barbara.obryen@uspto.gov

Search Notes

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CRFE

Access DB#

171462

441

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAVID FOX Examiner #: 65401 Date: 11/14/05
Art Unit: 1638 Phone Number ~~30~~ 20795 Serial Number: 10/808,979
Mail Box and Bldg/Room Location: 2C09 2C18 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

Earliest Priority Filing Date: 05 02/2003

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

RECEIVED
NOV 14 2005
TECH/CHM. DIVISION
(STIC)

Please do
interference sequence
search

for SEQ ID NO: 18

MA 6999

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1 wa

03P

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THANK YOU

11/29/05
F11.

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November 2005

Published_Applications Nucleic Acid and Published_Applications Amino Acid database searches now generate two sets of results each. The Published_Applications databases have been split into two parts to reduce the amount of time required for their daily updates. This results in more machine time being available for processing searches.

Newly published applications will appear in the Published_Applications_New databases; older published applications make up the Published_Applications_Main databases.

Searches run against Nucleic Acid Published_Applications produce two sets of results, with the extensions **.rnpbm** (Published_Applications_NA_Main) and **.rnpbn** (Published_Applications_NA_New). Searches run against Amino Acid Published_Applications produce two sets of results, with the extensions **.rapbm** (Published_Applications_AA_Main) and **.rapbn** (Published_Applications_AA_New).

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GenCore version 5.1.6
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OM nucleic - nucleic search, using sw model

Run on: November 24, 2005, 20:26:32 ; Search time 1168 Seconds
(without alignments)
10651.673 Million cell updates/sec

Title: US-10-808-979-18

Perfect score: 6999

Sequence: 1 gcatggcaatggaatgt.....gacgttttagacatgcaata 6999

Scoring table: IDENTITY NUC

Gapop 10.0, Gapext 1.0

Searched: 1303057 seqs, 888780828 residues

Total number of hits satisfying chosen parameters: 2606114

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

Issued Patents NA:*

- 1: /cgn2_6/ptodata/1/ina/1 COMB.seq.*
- 2: /cgn2_6/ptodata/1/ina/5 COMB.seq.*
- 3: /cgn2_6/ptodata/1/ina/6A COMB.seq.*
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- 8: /cgn2_6/ptodata/1/ina/RE COMB.seq.*
- 9: /cgn2_6/ptodata/1/ina/backfiles1.seq.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	2624.6	37.5	6918	2	US-07-783-705A-13
2	2138.6	30.6	8814	3	US-10-808-807-18
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Sequence 16, Appl
Sequence 17, Appl
Sequence 9, Appl
Sequence 7, Appl
Sequence 7, Appl
Sequence 7, Appl
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Sequence 930, App
Sequence 1, Appl
Sequence 3, Appl

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US-07-783-705A-7 909 43
US-09-502-540-930 933 44
US-08-095-726-1 4.4 1157 45
US-08-095-726-3 4.4 1157 45

ALIGNMENTS

RESULT 1

US-07-783-705A-13
; Sequence 13, Application US/07783705A
; Patent No. 5429939
; GENERAL INFORMATION:
; APPLICANT: Misawa, No. 5429939ihiko
; APPLICANT: Kobayashi, Kazuo
; APPLICANT: Nakamura, Katsumi
; APPLICANT: Yamano, Shigeoyuki
; TITLE OF INVENTION: DNA SEQUENCES USEFUL FOR THE
; TITLE OF INVENTION: SYNTHESIS OF CAROTENOID
; NUMBER OF SEQUENCES: 18
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Ladas & Parry
; STREET: 26 West 61 Street
; CITY: New York
; STATE: NY
; COUNTRY: USA
; ZIP: 10023
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette, 3.50 inch, 720Kb storage
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: N/A
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/783,705A
; FILING DATE: 19911023
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 1-103078
; FILING DATE: 21-APR-1989
; APPLICATION NUMBER: JP 2-53225
; FILING DATE: 05-MAR-1990
; APPLICATION NUMBER: US 07/519,011
; FILING DATE: 19-APR-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: Schwadron, Janet I.
; REGISTRATION NUMBER: 33,778
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 212-708-1935
; TELEFAX: 212-246-5959
; INFORMATION FOR SEQ ID NO: 13:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 6918 base pairs
; TYPE: NUCLEIC ACID
; STRANDEDNESS: double
; TOPOLOGY: linear

; MOLECULE TYPE: other nucleic acid (plasmid DNA)
 ; ORIGINAL SOURCE:
 ; ORGANISM: Erwinia uredovora
 ; STRAIN: 20D3
 ; CELL TYPE: unicellular organism
 ; FEATURE:
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 ; NAME/KEY: /gene="crt E"
 ; LOCATION: 225 to 1133
 ; IDENTIFICATION METHOD: by experiment
 ; OTHER INFORMATION: codes for geranylgeranyl
 ; OTHER INFORMATION: pyrophosphate synthase
 ; NAME/KEY: CDS
 ; NAME/KEY: /gene="crt X"
 ; LOCATION: 1143 to 2438
 ; IDENTIFICATION METHOD: by experiment
 ; OTHER INFORMATION: codes for zeaxanthin glycosylase
 ; NAME/KEY: CDS
 ; NAME/KEY: /gene="crt Y"
 ; LOCATION: 2422 to 3570
 ; IDENTIFICATION METHOD: by experiment
 ; OTHER INFORMATION: codes for lycopene cyclase
 ; NAME/KEY: CDS
 ; NAME/KEY: /gene="crt I"
 ; LOCATION: 3582 to 5060
 ; IDENTIFICATION METHOD: by experiment
 ; OTHER INFORMATION: codes for phytoene desaturase
 ; NAME/KEY: CDS
 ; NAME/KEY: /gene="crt B"
 ; LOCATION: 5096 to 5986
 ; IDENTIFICATION METHOD: by experiment
 ; OTHER INFORMATION: codes for phytoene synthase
 ; NAME/KEY: CDS
 ; NAME/KEY: /gene="crt Z"
 ; LOCATION: 5925 to 6452
 ; IDENTIFICATION METHOD: by experiment
 ; OTHER INFORMATION: codes for @-carotene hydroxylase
 ; PUBLICATION INFORMATION:
 ; AUTHORS: Misawa, No. 54299391hiko
 ; AUTHORS: Nakagawa, Masaya
 ; AUTHORS: Kobayashi, Kazuo
 ; AUTHORS: Yamano, Shigeyuki
 ; AUTHORS: Izawa, Yuko
 ; AUTHORS: Nakamura, Katsumi
 ; AUTHORS: Harashima, Keiji
 ; TITLE: Elucidation of the Erwinia uredovora Carotenoid Biosynthetic Path
 ; TITLE: by Functional Analysis of Gene Products Expressed in Escheric
 ; JOURNAL: Journal of Bacteriology
 ; VOLUME: 172
 ; ISSUE: 12
 ; PAGES: 6704-6712
 ; DATE: DEC-1990
 ; US-07-783-705A-13

Query Match 37.58; Score 2624.6; DB 2; Length 6918;
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 Matches 4007; Conservative 0; Mismatches 2169; Indels 21; Gaps 6;
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 DB 303 CTTGATCAGTTATTTCCCGTGGAGGAGAACGGATGTTGGGTGCGCGATGCGTGA 362
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Qy	6217	TAAGCG	CTTAAG	ATAG	CTTTG	CGCGG	GAATAT	AGCG	GAAGCG	CGTGTG	ATGCAC	CCAG	6276
Db	6105	CAACCG	TTTGA	GTAG	CTTTCG	TCG	TGAATAT	TAGCG	GAATG	CGCACT	TGTGAT	GCAC	6164
Qy	6277	GCCAT	CGTGC	ACCAT	GAAG	TAG	ACGCG	CGT	AGTGT	CTATTC	CGGCAC	CNAT	6336
Db	6165	CCC	GTG	TGC	ACCA	TAAAT	TAGAT	TAAT	CAT	AGCCG	CTCATCT	GCGCAAT	6224
Qy	6337	CAGCGG	CCACAT	TGCTT	GCAC	CCGAC	CAT	TAAT	CAGCA	CAATCC	CCAGTAC	CGCAAA	6396
Db	6225	GAGCGG	CCACAT	TCTCT	ACTG	CTGCC	AGATAA	T	CAGC	AGGAT	CGATAT	CGAC	6284
Qy	6397	CACCG	CATAA	AGAT	CTGT	TGAG	CTCAAA	CTTAC	CCGCTG	TGCGG	TTTCATG	TGGCG	6456
Db	6285	CACG	GCATAA	AGAT	CTGTAA	CTTCAAA	CGCAC	CTTTAC	CGCGT	TTTCATG	TGTGA	AAGATG	6344
Qy	6457	CCAGC	CCCAT	CCCCAA	CCGTC	ATGAT	TTTAT	TGCG	ACAG	CGCGCC	CTAC	GATTTC	6516
Db	6345	CCAT	CCCCAA	CCCCAG	CGCG	TCAT	TGAT	TTTGT	GTG	CCAGT	GCAC	CAATCT	6404
Qy	6517	CACC	ACCA	CGGT	TGCC	CAACA	GAAT	TAAG	CACTT	CCATAA	CCAG	AGCAT	6576
Db	6405	GCC	AATC	ACG	GTAA	CGAA	ACG	CAT	CAGG	GCAT	TCC	CAAT	6464
Qy	6577	TGTG	GA	AAA	GGG	AA	AGTA						
Db	6465	AG	AC	CG	CT	CG	CAG	CA					

RESULT 2

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US-10-808-807-18
; Sequence 18, Application US/10808807
; Patent No. 6929528
; GENERAL INFORMATION:
; APPLICANT: E.I. du Pont deNemours and Co., Inc.
; APPLICANT: Cheng, Qiong
; APPLICANT: Tao, Luan
; APPLICANT: Sedkova, Natalia
; TITLE OF INVENTION: GENES ENCODING CAROTENOID COMPOUNDS
; FILE REFERENCE: CH2355 US NA
; CURRENT APPLICATION NUMBER: US/10/808,807
; CURRENT FILING DATE: 2004-03-24
; PRIOR APPLICATION NUMBER: US 60/477,874
; PRIOR FILING DATE: 2003-06-12
; PRIOR APPLICATION NUMBER: US 60/527,083
; PRIOR FILING DATE: 2003-12-03
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 18
; LENGTH: 8814
; TYPE: DNA
; ORGANISM: Pantoea agglomerans strain DC404
US-10-808-807-18

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2444	Db	GCATGAGCTGCACGCTGCCCTGCMACGCTCGCTGGATGAACCTGCTGCCCTTGGCGATGA	2503
429	Qy	AAGCGATCGCTGCTGCCGCGATGCTGCGGAACGCTGCGCAGGCGAAAGTATTTCG	488
2504	Db	GCGGGATCGGTCAGCAGCGCAATGCGGAAGCGGTACTGGCACCGGGAAACGCATTTCG	2563
489	Qy	TCCTTTATTACTGCTGTGCGCAGCGCGGCGATATGGTGTGCGAGCTGACGCAAAATGGCGT	548
2564	Db	CCCCTGCTCTGTGATCTCTCGCGCGCCGCGACCTCGGCTGCGATCGCGACCACTCCGCGCCT	2623
549	Qy	TCTCGATCTCCGCTGTGAGTGGAAATGGTGCACGCGGCATCGCTGATTTCTGGATGACAT	608
2624	Db	GCTGGATATGGCTGTGCGGTGGAAATGGTGCACGCTCTGCTGCTGATCTCTGACGATAT	2683
609	Qy	TCCCTCGATGGATAAACGCGCAGATGCGTCTGTGTGCGCCCTACCGTGATCATCGCAAAATTGG	668
2684	Db	TCCCTGATGGATAACGCGCGCTCCGCGCGGTGCGCCCTACCATTTATCGCCAGTATGG	2743
669	Qy	TGAAAAAGTGGCGATTTCTCGCGGCCATCGCGCTGCTTAGCGCGGCATTTGAACTGATTGC	728
2744	Db	TGAAGAGCTGGCAATTTCTCGCTCGGTAGCGTTGCTCTAGCAGCGCCTTTTGGCGTGATGGT	2803
729	Qy	CATTGCAACCGGTTTGTCTGCCATACATAAATCTGAAGCGATTGCTGAACTCTCCGCTGC	788
2804	Db	CGCGCGAGGGATTGTCTCCGAGTCCGCGAGCGCGGTGGCGAGCTGTGATGGC	2863
789	Qy	CGTCGGCTCGCAGGCTTAGTGCAAAGGGCAATTTCCAGGATCTGCACGACGGCACGACAG	848
2864	Db	GGTCGGTACCCAGGCTCTGTCAGGGTCAGTATAAGGATCTCGGTGAAGCACCGCCCC	2923
849	Qy	CCGACGCCGGAAGCGATTCGCATGACCAACGAATGTGAAAAACAGCGTGTCTGTTTCGCGC	908
2924	Db	GCGCAGCGCCGAGGAGATCGCCACCAACGAACCTGAAAAACGAGCGTCTGTTTGGTGC	2983
909	Qy	CACCTGCAATGCGCGGATTCGCGCTGACGCTTCAACGAGTGTGCGGCAAGACTTAG	968
2984	Db	CACCTTGAAATCGCGGCCCTTGGCGGAGCGGCTCTCGCGCGCGCGCCAGAAAAATGCG	3043
969	Qy	CTTCTTCCGCCAGATTTTGGGCCAGGCGTTTCAACTGCTCGACGACCTCGCCGACGGTTG	1028
3044	Db	CTGCTTTGCGAGGATTTAGCCAGGCGTTCCAGCTGCTGGACGATCTGCGGACGGCCA	3103
1029	Qy	CAAAACACACCGGTAAAGATGTGACACAGATACAGGCAAAATCCACGCTGTGTAAGATGCT	1088
3104	Db	TGCCGGACCGCAAGACATCAATAGGACGCGGGTAACTCCACGCTGTGGCGATGCT	3163
1089	Qy	CGGTGCTGAGCGCGCGAAGCGTGCCTGCGGATCACCTGCGCAGCGCAGATGCACACCT	1148
3164	Db	GCGCAGCGACGCGGTGCGAGCGGCTCGACATCCATCTCGCGCGCGCAGACCCCATTT	3223
1149	Qy	TGCCTGCGCCTGCCATCGCGCATCGCCATTCGCAATATATGACGCGCTGTTTAATCA	1208
3224	Db	TTACGCGCCTGCGGAAAAAACGAGGCCACGCGACGCTTTATGACGCTGTTTTCNAA	3283
1209	Qy	ACAGCTAGCGATATTTCAACTGAGCGCGGTCTACGCGGTGGGCCACTTTTTCGGGTGATCGG	1268
3284	Db	ACAGCTGCGCGCGTTTAGCTGAGCAACGGATACACCCCGTAATATTTGTGGAGATCACA	3343
1269	Qy	CCGCGCTCTACAGCCATTTCAGCGGTTTCAGGCGTTAGCAAAACGCTGTGCGCGCG	1328
3344	Db	T-----GA	3346
1329	Qy	GGCCATCGCATCATTTATCCAGCAAGCGATGCGCGCATTTTGTCTTAGCGACGAAACGC	1388
3347	Db	AGGACGGCATCTGGTTACGGTTAAATAAGCAACCTGGATATCGTGTGCACTTGAC	3406
1389	Qy	ATCGATTTTGTTCGCTCGGCCAACAGACGATCTCTGCCGGTTTCGCTGGCGCGCGGTG	1448
3407	Db	GGGCGATGATGATACCATTTTCGCACCGGATTTTACGCTTGGGCTTTTGAACATCGC-----	3459
1449	Qy	CATCGGCTGGCCTCGCGGGGGCGTGTGCTGCTGTTTCGCGTGTATCGACGATCTCGCGTCC	1508
3460	Db	-----GCCCTCCGGAGCTGGATCTCGACGGTATCGATCTCTCCACC	3501

Qy	1509	TGACCCGATATGCTGTGCCCGAACTGCCCTGCGGTACTGAAAGCATTTGAAACATCGATGGC	1568
Db	3502	ACCTGTGTTTCCCGCCCGCTGAAAGCCCGGTGCTGATCAGCTCCATGACCGGCGCGCG	3561
Qy	1569	GTGATCCGCGACGAAATGGAAGCGCGGCGGAGATTTGGTCCGTGAAGCGCTGCAATGTGCCG	1628
Db	3562	GCGCGCCGACGAGACATTAACCGGTCACTTGCGCCAGCGCGCGAAACCCCTTGGGCTGGCG	3621
Qy	1629	TTTGTGTTTCGGTGGCTGCGCTTGCCGCTCAATCGTGAAGCCGGAATTCGCTTTCGGGTG	1688
Db	3622	ATGGGCGTCCGTTCCAGCGCGTGGCGCTGGAGACGGCGCGGACGCGGCTTGGATGCC	3681
Qy	1689	ATGCCCTTCGGTTTTTGACAGGATGACAAAGCGCTGAACCGTTTTCAGGCCACGACGCGAT	1748
Db	3682	CAGCTACGCCATATCGCCCCCGGAGCTGCGCTGCTG-----GCT	3720
Qy	1749	ATCTATGATCGCATCATGCTGTGTCACGGGACGTGATCTCTMAACGCGCGGGCGTTT	1808
Db	3721	AACCTTGGCGCGGCGAGATCCGCGGTGCGCAGGGCTGGACTACGCGCCGCGCGCGGTG	3780
Qy	1809	AAATTGACGAGCGCGGATTAACATCAGTGCTGTGCGCTGGGCACAAATCAGCCAG	1868
Db	3781	GACATGATCGAGCCGAGCGGTTAATTGTGATCTGAACCCGCTG-----CAG	3828
Qy	1869	ATGTTGCCGCGCTTTTGATTTTCCAGCTCAGCAATGCCGCCCTGCTATCAACGCGGTGGG	1928
Db	3829	GAGCGCTCCAGGGCGCGCGATCGCGACTGGGCGGCACTCTCAACGCCATTGGCGCAG	3888
Qy	1929	CCACTCCGCGGCCCGGTTTCTCTGCGCGCGTCCATGTCGCGCTGGCCAGCGCTGCGTCAG	1988
Db	3889	CTGTTGGCGGACCTTCCGCGTACCGGTTGGTTAAAGAG--GTGGGCGCCGGGATCTCCC	3946
Qy	1989	CCGGTGGTTTATGCTTCGCTGGGTACGCTGCAAGGCCATCGCTTCGCGCTTCTTCGAT	2048
Db	3947	CGGACGTTGCTTGCGGACTGGCGGACGTCGCGGTGGCGATGATCGACATTG-----	3997
Qy	2049	CTGCGCGAGCGTCCGCCAGCTCGGCTATCGCTGTGTGATCGCCCAATTGTGGGGGATTA	2108
Db	3998	CCGCGCGGGCGGAACACAGCTGGCGCGCGGTGAAGCTGAACGCGCCCG-----	4047
Qy	2109	AACCGCGAACAGACGATCAGCTCGAGCTCGCTGGCGGCGGTGGGTGACGGATTTGCTC	2168
Db	4048	---ACCCCCGAGGCGGAAATGTGGCGATGGCCTTTGCCGACTGGGGGATTCCTACTGCC	4104
Qy	2169	GATCAGCGCGAGCCCTACAGACGCGCAGCTGTTTATCACTCATCGCGGGTTAAACAGC	2228
Db	4105	GATGGCTGCGTCGGTCCATCTTTGCGCTGCTGATATCCGCTTATCGCTCCGCGGC	4164
Qy	2229	GCGCTGGAAGCACTGGAATGCGGTACGCGCGATGTGCGCTGCGGATTTGTTTGATCAG	2288
Db	4165	ATCGCAACGGCAATTGACCGAGCAA-----AAGCCATCGCGCTGGGTGCGAGATCTG	4215
Qy	2289	CCGCGCTGGCGCGCGCATTTAGTGGCATGACGTTGGTCCGCGCGCATCAGCTTTAGC	2348
Db	4216	GTGGGCCAGGCGCGCGGTGCTGGCGCATGCCAACGCTCCGCGCAGCGGGCAATTGGCC	4275
Qy	2349	CGTGTTCATCAACTGGAGCAGCATCTGCAACAGCTGTGACCGGACGATCTGTACGCGCTA	2408
Db	4276	CATTTCGCACCTGATTACGAGCTGC-----GGATCGCTGTTTCTGTACCGCGAG	4328
Qy	2409	CGGATGTGAGGATTCAGGCGCAGTGTGACGCGGAGCGGCTTGCCAGCGTGGCCGCGAC	2468
Db	4329	TGCAAACTCGAGGCGTTTGACACGCGCACGCTGCTTCGCGTCAACGCGCGCGCATCCCT	4388
Qy	2469	ATCGTTCGAGCAGGCGCTGTGCCAGCAGCAAGTCTGTGCGGGAGGCGACCTGATGCGCA	2528
Db	4389	GTGACGCAATACGTGTCCTTATACGGGGAGCGGT-----ATGA	4427
Qy	2529	CGCAATACGATGTGATTTTGGTCCGTGCTGGAAGTGGGCAATGGCTTGATTGCGCTGCGTC	2588
Db	4428	AAAAATGGGATCTGATCTGGTTCGCGCGCGGCTGGCCAAAGGGCTTATCGCTGGGCGAC	4487

Qy	2589	TGCGTCAATTGCGAGCCAACTGTAATGCTGTGTGTGAGAGCGATGCGCATCCGCGAG	2648
Db	4488	TAAAGCAGCGTCATCCGACGCTTGTCTGTATTAATGTGTGAGTGTGCGGACGCGCCGGCG	4547
Qy	2649	GCATCATACCTGGTCGTTTCATCAGACGATCTCAGCGCCGAACAACTTCGTGCTGCTGC	2708
Db	4548	GAACAACACACCTGGTCCTTTCCAAACAGATATCAGCCAGCCCAAGCAGCGCTGTGCTGG	4607
Qy	2709	AACCGCTGATTACCGTGGCTGGTCAGGTTATCAGGTGGCTTTTCTGTGCGTCGCGCGCA	2768
Db	4608	CGCGCTGGTGGCCATCGCTGGGACGGGTACGACGTCCACTTTTCCGAAGTGTGCGCA	4667
Qy	2769	ATCTGACGGGGATTTATGTTTCATCGCATCAGCGGATTTTGGCCGCGCATCTTTTACGCG	2828
Db	4668	CCCTGCATGACGGCTACCTGACCATCACCTCCACGCGTTTGTGCCAAGCGATGCGGGCG	4727
Qy	2829	CGATGGGTACGATCTGTGGACAAAACAGCCGTCAACAGGTAAACCCACACGAGTGA	2888
Db	4728	TGATGAAGAGAAATTTGCTGTACAAACGTGACCGGTGCACGGGTGACGGGACGAAGTAA	4787
Qy	2889	CGCTGGCGGATGCGCGTGAACCTTGTCTGCGCAAGTGGTGTATGATGTGCGGGCTGCGC	2948
Db	4788	CCCTCAGACGACGACGAGCGTTTACCGCGGGCGGTGATTGATGCGCGGTATCATCAGC	4847
Qy	2949	CGACGCCACATCTGCAGCTGGGTTATCAGGTGTTTCTTGGACAAGAGTGGCAGCTGGCGC	3008
Db	4848	CCTCGCGCACCTCAGCATTTGGCTATCAGCGCTTCATCGGCAGGAGTGGCAACTGACCG	4907
Qy	3009	AGCGGCACGGCTGCGACGACGCCATCCTGATGATGCCACCGTGCATCAGCAGCGGGTT	3068
Db	4908	CGCCCCACGGGTTAACCGCGGCCGATCCTGATGATGCCCGCTGCGCCAGGGCAACGCGCT	4967
Qy	3069	ATGTTTTGTCTACAGCTGCCGCTCAGCGCCGATCGGCTATTGATTGAAGATACCCATT	3128
Db	4968	ACGCTTTGTCTATACCTGCCGCTCAGCGCCGACACCCTGCTTATCGAAGACACGCACT	5027
Qy	3129	ACGTTAACAGCCCGCGCTGGCGGAGAACACCGCTCGTCAGACATATGCCGATATGCCCA	3188
Db	5028	ACATTGACGCCCGACGCTCGACCGCATTCAGCCGCGCGCGGATTCGCGATTAACGCC	5087
Qy	3189	ATCAGCAAGCTCGACGCTGAGTACGCTGCTGGTGAAGACACGGCATATATCCGATTA	3248
Db	5088	GCCAGCAGGGCTGGCAGCTTTCGCGGCTGGTGTGAGGAACAGGGGGCGCTGCCGATCA	5147
Qy	3249	CCCTGACGGCAACATCGATCGATTCTGGCAACAGCAGCGCGGCCAAGCGGTGACGCGGCC	3308
Db	5148	CCCTGTCCGGGATCCGCGCGCTTCTGGCACAGATTCCATCATCAGCCGCTCAGCGGCC	5207
Qy	3309	TGCGCGCGGGCTGTTTCATGCCACCAACCGGTTATCTCTTGGCGTCGCGTGGCGGTAG	3368
Db	5208	TGCGCGCGGTCGTTTCCATATGCCACACACCGGCTATTGCTGCCGCTGGCGGTTCGGCTG	5267
Qy	3369	CGGAGTTGTAGCAGCGCTGTTGCCACCGATGCCCTCAGCTCAGGCCAACATATCGAAC	3428
Db	5268	CGGACCGCATTGCCAAACGCGCCGGGACTGATCAGGGCGGCGCTCTATCAGCTGATCCCG	5327
Qy	3429	GCTTTGCGCGCTCAGCAGTGGCGGAACAGCGATTTTTCCGTCTGCTAAAACCGCATGCTGT	3488
Db	5328	ATTTTCGGCGGCGGCACTGGGACACAAACGCTTTTTCCGCGTCTTAAACGATGCTTT	5387
Qy	3489	TTTTTGGCGGTAAGCCCGCAGCGCTGGGCGGTGATGCAACGTTTATCCGGCTCGATG	3548
Db	5388	TCCTGGCGGGCACACCCGACACGCGCTGGCGGTGATGACAGCGGTTTTTACAGCTTGACG	5447
Qy	3549	CCGGGTTAATTAGCGCTTTTACCGCGGGCAACTGCGCGCTGCGGGATTAACACGGGATT	3608
Db	5448	AGCAGCTGATCGCCGCTTTTATTCGCCGCGCAGCTTCGCTCCGCGCACCGCGCGCGCTGC	5507
Qy	3609	TGTCGGCAGACCGCGCTGCCATTCGTTGAAGCGCTGCGCGCTGTTT-----GAATT	3662
Db	5508	TGCTTGGCAAAACCGCGGTGCCGATGTGGGGCGATCAAGCCCTGCTCCACACTCATTT	5567
Qy	3663	CTGTGCAACCGGGAAGAAAAATGAAACCGCATTTATGTGATTGGCGCAGGTTTTGGCGG	3722

Db 5568 CTTTCTCTGAGCCCATATAAATGAAACAAACCAATTTGTAATTTGGCCGCCGGTTTCGGCGG 5627
QY 3723 CTTGGCGCTGGCGATTCGCTGCAAGCGGGGATACCAACCACTTACTTCGAGCAGCG 3782
Db 5628 ACTGGCGCTGGCGATTCGCTTCAGGCGGGCGGGATTCCTACACGCTGCTGGAGACCG 5687
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Db 5688 CGACAAACCGGGCGGCGCCTATGTCTACGAAGATCGCGCTTTACCTTTGATCGGG 5747
QY 3843 ACCACGGTGATCACCGATCCAGCGGCATCGAAGAGTTGTTACGCTGGCAGGAAAATC 3902
Db 5748 TCCACCGCTCATCACCGATCCCTCCGCATTTGAGAGAGCTGTTCACCCCTCGCGGAAAACG 5807
QY 3903 GCTCAGCGATTACGCTCGAGCTGATCGCGGTAAGCGCCTTCTATCGCCTGTGCTGGGAAGA 3962
Db 5808 GCTGAAGACTACGTTGAGCTGATGCGCGGTGACCGCGTTCATCGCCTGTGCTGGGAAGA 5867
QY 3963 TGGCAACACAGCTTGATTAACGACAAATAATCAGCCGCTGCTGGAGCAGCAGATCGCCACGTT 4022
Db 5868 CGCAAGTTTTCGACTACGCCAACGATCAGGCGCGCTTGAGTCGCAGATCGCCGCTT 5927
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Db 5928 TAAACCCGAACGACGTGGCGGCTATCACCGCTTCTCGACTACTCCCGGGCGGTGTTGC 5987
QY 4083 AGAGGTTATCTGAAATCTCGGCAAGCGTGGCGTCTCTCAGGTGTCGACATGCTGCGCT 4142
Db 5988 CGAAGGCTATCTGAAGCTCGGCGCGGTGCGCTTCTCTCGTTTCGCGACATGCTGCGCGC 6047
QY 4143 CGGCGCCAGTTGGGAGCTGTGCAAGCATGGCGCAGCGTCTACAGCATGGTGGCGAAAT 4202
Db 6048 CGGTCTCACTGGCGCGCTGCAGGCATGGCGCAGCGTGTACGACAAAGTGTGCGCCTA 6107
QY 4203 TATTAGGACGATCATCTGCGTCAAGCGTGTTCCTTCCACTCATGCTGTTGGCGGTAA 4262
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QY 4263 TCCCTTTGCAAGCTCATCGATCTATACCTTAATTCATGCGCTGAGCGTGAATGGGCGT 4322
Db 6168 CCGGTTCTCACAGCTTCTATTATTAACACCTGATCCAGCCCTGGAGCGGAAATGGGCGT 6227
QY 4323 GTGGTTTCCGCGGCGGACCGCGCGCTGGTGCAGGCGATGGCGAGCTGTCGAGGA 4382
Db 6228 CTGGTTCCGCGGCGGCGACCGGTGCGCTGGTTTCAGGCGATGTTGAAGCTGTTTACGA 6287
QY 4383 CTTGGGCGGAGCTGTTTACTGAATGCGAAGTGAGCCAGCTGGAAACCGAGCGCAATCG 4442
Db 6288 TCTTGGCGGCACCTCACTTAACTTAACTGAGTTCAGGCTGGAGACGTTGGACAAATCA 6347
QY 4443 CATTAGCGGCTGAGTTAGAGGCGGACGACGCTTCGATGCGCGCGCTGTGGCTCCAA 4502
Db 6348 GGTGAAGGCGCTGCATCTGTTTAACTGAGCGGCGGCTGGAGGCTGCGGCGTGGCTCGAA 6407
QY 4503 TGCGGAGCTGCTGATACCTACGACAACTGCTTCGCGCACCATCCGCTGGCAATGAACG 4562
Db 6408 CGGCGAGCTGTTAAATACCTATGCTCCGACTGCTCGGCCATCACCGCAGCGCGCGCTAC 6467
QY 4563 TGCGACATCTGAAAGCTGAAGCGCATGAGCAACTCGCTGTTGTTGTTACTCTATTGTCCT 4622
Db 6468 GGCACAAAACCTGAAACGCAAGCGCATGAGCAACTCGCTGTTGTTGTTGCTCTATTGTCCT 6527
QY 4623 GAATCAGCGCATGAACAGCTCGGCGACACACGCTGTTGTTGTCGCGCGCGGTATCGTGA 4682
Db 6528 GGAATCAATCACACCGAGCTGGCGCACCATACCGCTGCTGTTGGCCCGGCTTATAAAGC 6587
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Db 6588 GCTAATCGATGAATTTTCAAGCGCGACACCTGTGCGAAGATTTTTCGCTCTATCTGCA 6647
QY 4743 CGGCGCCTGACGAGCATCCGCTGCTGGCACCGCCGCGCTGGCGCAGCTTTTATGTGTT 4802

Db 6648 TGGCCCTGCGTAAACGACCGCTGCTGTCGCCCGCGGGTGGCGCAGCTACTATGTGCT 6707
QY 4803 AGCGCGGTCGCGCATCTCGGCACCGCTGACATCGACTGGCAACAGGAAGACCGCGCTT 4862
Db 6708 CGGCGCGGTCGCGCATCTCGGTAAACCGCCGCTCGACTGGAGCGTGAAGGCGCGCTCT 6767
QY 4863 GCGCGATCGAATTTTGTCTTATCTGGAGCAGCACTACATCGCGGGAATTAGCTCAGCAAT 4922
Db 6768 GCGGATCGCATTTTGTATTTGATTTCTGAAGCGCGCTATATGCGGGGCTGCGCTCCAGCT 6827
QY 4923 AGTGACACACAGAAATGTTTACGCGGTTGATTTTTCGCGACACGCTGATGCCCATCAGG 4982
Db 6828 GGTGAOCACACGATGTTTCAAGCGGAAAGATTTTCGCGATACGCTCGATGCTGCGCAGG 6887
QY 4983 CTGCGGCTTTTCTGAGCGGATTTTACGCAAGCGCTGTTTCGCGCGCATAAACG 5042
Db 6888 GTCAGCGTTTCTACTGGAGCGGATCTCAACCGAGCGCTTGTTCGCGCGCACAACCG 6947
QY 5043 CGATGCCGATPATCAGCAATCTCTATCTGTGGGTGCGCGTACGCAATCCAGCGCGGCGT 5102
Db 6948 CGACAGCTGTTGATAAATCTCTACCTGTGCGCGCGGAAACGATCCCGCGCTGCGT 7007
QY 5103 GCGCGGCTGATCGGTTTCGCGCAAGCGCAACCGCAGCTGATGCTGGAGGATCGCGCGA 5162
Db 7008 GCGCGGCTGATCGGATCCGCAAGCGCAACCGCGCTTAAATGTTAAAGGATTTAGCGTA 7067
QY 5163 ATGAATCGACAGCTTTTACTTGAAGCAAGTAAACCAACCATGGCGGTGGCTCGAAGT 5222
Db 7068 ATG---TCCAGCGCTTCTCGAACCGCAGCGCCACCATGATCCGCGCTTTTAAAGT 7124
QY 5223 TTGCGCACCGCCCAAGCTGTTTGTATGCAACCGCGCGCGCAGCAGCTGATGCTGAT 5282
Db 7125 TTGCGCACCGCTTCAAGCTGTTTGAACAAACGACACCGCGCGCAGCGCTGATGCTCTAT 7184
QY 5283 GCGTGTGCTGCTCATCTGCGATGATGTGATGTGAGGCAACGCTGGCGGAGGCGGACG 5342
Db 7185 ACCTGTGTCGCTGCTGCGACGATGTTATCGACGCAACGAGTGGTGGGTTTGTGTCGCCG 7244
QY 5343 CAGCATGCGTTCGAAGACGCGCAGGACGATGTCAGCATCTGCAAAATGGAACCCCGCGC 5402
Db 7245 ACCGAGCAGAGCAGACGCGCCGAGGCGCGCTGCAACGCGTGTGTAAGATGACGCGCGC 7304
QY 5403 GCCTACAGCGCGCGCACATGGATGAACCGCGCTTTAGGGCGTTTACAGGAAGTGGCGATC 5462
Db 7305 GCCTACGACGCGGAAACCATGCAAGACCGCGCTTTCGCGCGCTTTCAGGAGTGGCCCTC 7364
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QY 5523 CGCAACGAAATTTACGCGAGCTTCGATGACACGCTGCTGCTTACTGCTATACGTCGCGGC 5582
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QY 5823 GCGGAGCGGAAACCTTATTATCACTCGCGCATCCGCTTTTACCGGTTTACCGCTGCGC 5882
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Db 7905 CTGGTTATTTCCGGCGGAAGCAGCGATGGCTTCGCGAAGCGAGCTGGCGCGCGCG 7964
QY 6063 CCGCTGGTCTGGGAGCGCTCTCGTTGATTTTATCGTCCGTACGCTGGCGCAGCGTGG 6122
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QY 6123 CTTCGAGCTTATTCAGCGGTGGCGGTAGAGGAAACCAACGACAGCGACCTTTCAGCC 6182
Db 8025 CTTGAGCTTGTCCACGGTGGCGGTAGATAAACCGGAAGGAGACGACCTTTCGGCC 8084
QY 6183 CGCGCACCGCATGATGATGCGGTGGCCATGTATAGCGCTTAAGCGCTTAAGATAGCTTTGCGG 6242
Db 8085 CCGCACCGCTGATGACGCGGTGTCCATGTAGAGCGCGCAGATAGCGCGCGCG 8144
QY 6243 GGATATAGCGGACCGCCAGCGTTGATGACACAGGCCCTCGTGCACCATGAAGTAGCG 6302
Db 8145 GCACGTAACGGAACGCGCAGCGCTGTGGTGAACCAATCGTGAACGATAAAGTAGATCA 8204
QY 6303 CGCGCTAGCTGCTATTCGGGACCAATCACTGACAGCGGCCACATGCTTCGACACCGA 6362
Db 8205 CGCGGTAGCGGTATTCGCGGCCAATCACTGAGAGCGCCAGTACCTTCCTGCGCG 8264
QY 6363 CATAAATCAGCACAATCGCCAGTACCGCAAAACCAACCGCATAAAGATCGTTGAGCTCA 6422
Db 8265 CGTAAATCAGCGCAATGGCCAGTAGCGCAAAACCAACCGCATAGAGATCGTTACGCTCA 8324
QY 6423 ACTTACCGTGTGCGGTTCATGTGTGACAGATGCGAGCCCATCCGCAACCGTGATGA 6482
Db 8325 ACCCGCTTTGCGCGGGTATGTGTGCAATGATGCCAGCCCATCCCGACCGGTGATGA 8384
QY 6483 TGTATTATCGCACAGCGCGCTACGATTTCCATCACACACCGGTTGCCAACAAAGATA 6542
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Db 8445 CGGTATTCACAAACGCAAGCATAGTTTTCCTGT 8479
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RESULT 3
US-08-980-832-1/c
; Sequence 1, Application US/08980832B
; Patent No. 6291204
; GENERAL INFORMATION:
; APPLICANT: Pasamontes, Luis
; APPLICANT: Tsygankov, Yuri
; TITLE OF INVENTION: Improved Fermentative Carotenoid Production
; FILE REFERENCE: Improved Fermentative Carotenoid
; CURRENT APPLICATION NUMBER: US/08/980,832B
; CURRENT FILING DATE: 1997-12-01
; NUMBER OF SEQ ID NOS: 66
; SOFTWARE: Patentin Ver. 2.1
; SEQ ID NO 1
; LENGTH: 8625
; TYPE: DNA
; ORGANISM: Flavobacterium sp. R1534
; FEATURE:
; NAME/KEY: unsure
; LOCATION: (8348)..(8349)
; FEATURE:
; NAME/KEY: unsure
; LOCATION: (8539)..(8540)
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; FEATURE:
; NAME/KEY: unsure
; LOCATION: (8581)
; FEATURE:
; NAME/KEY: unsure
; LOCATION: (8590)
; FEATURE:
; NAME/KEY: unsure
; LOCATION: (8592)
; FEATURE:
; NAME/KEY: unsure
; LOCATION: (8602)..(8604)
US-08-980-832-1
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Query Match 14.8%; Score 1035.4; DB 3; Length 8625;
Best Local Similarity 56.5%; Pred. No. 7.8e-257;
Matches 2037; Conservative 0; Mismatches 1536; Indels 30; Gaps 5;

QY 2486 GTGCCAGCAGCAAGTCGTGCTGCGGAGGCGACTGATGGCACGCAATACGATGTGATT 2545
Db 6984 GGGCGCGCTGCTGAAGGACCGGAGGGGCGGATCGCAATACATGAGCCATGATCTGCTG 6925
QY 2546 TTGGTCTGCTGCGAATGGCTTTGATTTGCGCTGCGTCTGCGTCAATTTGACGCCA 2605
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QY 2606 CAACTGAAATGCTGTTGCTGAGAGCGATGCGCATCCGGCAGGCAATCATACTGCTG 2665
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QY 2666 TTTTCATCAGAGCATCTCAGCGCCGAACTTCGCTGCTGCTGCAACCGCTGATTCGGTG 2725
Db 6804 TGCACGACAGCATCTTTGCGCCGAAATGGCTGGCGCGCTGTCGCCCATTCGTCGGCG 6745
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Db 6744 GAATGACCGGATCAGAGGTTGCGGTTTCCGACCATTCGCGCGCTGACGACAGGCTAT 6685
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QY 2846 TGGACAAACACAGCCCTCAACAGGTAACACCAACGACGCTGACGCTGGCGGATGGCGGT 2905
Db 6633 CGTGGAAATCGATGTCGGACGCTGGACGATACCGGCGCGACGCTGACGAGCGGCTG 6574
QY 2906 GAACTTGTGCGCAAGTGTGATTTGTTGCTGCGCGCTGCGACGCGCACATCTGCGAG 2965
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QY 3026 CAGCGCATCTGATGATGATCCACCGCTGATCAGCAAGCGGTTATCGTTTGTCTACAG 3085
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QY 3086 CTGCCGCTCAGCGCCGATCGGCTTATTTGATTTGAAGATACCCATTCGTTAACGAGCCGCG 3145
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QY 3146 CTGGCGGAGAAACCGCTGTCAGCAATCGCGCATATGCGCAATCAGCAAGCGCTGAGCG 3205
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QY 3206 CTGAGTACGCTGCTGTAAGAGACGCGCATATTACCGATTACCTGAGCGGCAACATC 3265
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QY 3266 GATCGATTCTGGCAACACAGCAGCGCGGCAAGCGTGCAGCGGCTGCGCGCGGCTGTTT 3325
Db 6213 GGTCTTCTGGCGGACCAACGCGAGGGGCGGTGCGGTTGGGCTGGGGGAGGGCTGTTTC 6154
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Db 4005 GCCGATGGACCTGATCGAGGGTTTCGGATGGATGTCCGGATCGCGAATACCGAGCCT 3946
Qy 5546 CGATGACACGCTGCTGCTATCATCGTCGCGGGCGTGGTTCGGTTGATGATGCGCG 5605
Db 3945 GGATGACGCTGCTGGAAATATTCCTACCACTGCGGGGGTCTGGCGGTGATGATGCGCG 3886
Qy 5606 CTTAATGGGGCTGGCGACCAAGCGGTGCTCGATCAGCCTGCGATTAGGACTGGCGTT 5665
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Qy 5846 CTGGCGCGATCCGGTTTACCGGTTTACCGCTGCGCTCGCGTGGGCCATCGCTACGCG 5905
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Qy 5966 TTCAGCGACGCGACAGTAAAGTGAAAGTGAAGTGGCGCTGCTGTTGAAAGGGGCGAGTTT 6025
Db 3534 CCAGCGGATCAGCACGTCGAAGGCTGCCAAGATCGGGCTTCTGGCGCGGAGGCTTGGGA 3475
Qy 6026 GGGCATCACCTTCGGGTGTGCTGCTGCTGAAACGCGCTCGCGCTGGTCTGTGGCAGCGTCC 6085
Db 3474 CGCGCGCGATCGCGCTGCGCGCGGCGGCGGAATCAGCGCGGCGCTGTGGACCGACC 3415
Qy 6086 TCG 6088
Db 3414 GCG 3412
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RESULT 4
US-09-920-923B-1/c
; Sequence 1, Application US/09920923B
; Patent No. 6677134
; GENERAL INFORMATION:
; APPLICANT: Pasamontes, Luis
; APPLICANT: Tsygankov, Yuri
; TITLE OF INVENTION: Fermentative Carotenoid Production
; FILE REFERENCE: 15464 US (C38435/125944)
; CURRENT APPLICATION NUMBER: US/09/920,923B
; CURRENT FILING DATE: 2001-08-02
; PRIOR APPLICATION NUMBER: 08/980,832
; PRIOR FILING DATE: 1997-12-01
; NUMBER OF SEQ ID NOS: 66
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 1
; LENGTH: 8625
; TYPE: DNA
; ORGANISM: Flavobacterium sp. R1534
; FEATURE:
; NAME/KEY: misc_feature
; LOCATION: (8348)..(8349)
; OTHER INFORMATION: unsure
; FEATURE:
; NAME/KEY: misc_feature
; LOCATION: (8539)..(8540)
; OTHER INFORMATION: unsure
; FEATURE:
; NAME/KEY: misc_feature
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; LOCATION: (8581)..(8581)
; OTHER INFORMATION: unsure
; FEATURE:
; NAME/KEY: misc_feature
; LOCATION: (8590)..(8590)
; OTHER INFORMATION: unsure
; FEATURE:
; NAME/KEY: misc_feature
; LOCATION: (8592)..(8592)
; OTHER INFORMATION: unsure
; FEATURE:
; NAME/KEY: misc_feature
; LOCATION: (8602)..(8604)
; OTHER INFORMATION: unsure
;
US-09-920-923B-1

Query Match 14.8%; Score 1035.4; DB 3; Length 8625;
Best Local Similarity 56.5%; Pred. No. 7.8e-257;
Matches 2037; Conservative 0; Mismatches 1536; Indels 30; Gaps 5;

Qy 2486 GTGCCAGACGAAGTCTGCTGGCGGAGGGAGCCTGATCGGCACGCAATACGATGTGATT 2545
Db 6984 GGGCGCGCTGCTGAAGAGACCGGAGGGCGGATCGCAATACATGAGCCATGATCTGCTG 6925
Qy 2546 TTGGTCCGTGCTGGACTGGCGAATGGCTTGTATTGGCGCTGCGTCTGCTCAATTCGAGCCA 2605
Db 6924 ATCGCGGGCGCGGGCTGTCCGGTGGCTGATCGCGCTTGGCCGTTCCGACCCGACACCG 6865
Qy 2606 CAACTGAAATGCTGTTGCTGGAGAGCGATGCGCATCCGGCAGGCAATCATACCTGGTCG 2665
Db 6864 GATGCGCGCATCTGATGCTCGACGCGGTCCGGCCCTCGAGCCAGCACACCTGGTCC 6805
Qy 2666 TTTTCATCAGCGATCTCAGCGCGGAAACAACTTCGCTGCTGCTGCAACCGCTGATACGGTG 2725
Db 6804 TGCACAGACGCGATCTTTCGCCGAAATGGCTGGCGCGCTGTGCGCCATTCGTCGCGC 6745
Qy 2726 CGTTGCTCAGGTATCATGAGTGGCTTTCTGCGCTGCGCGCAATCTGACGGGGATTAT 2785
Db 6744 GAATGACGATCAGAGGTTCGGTTTCCGACCATTCGCGCGCTGACGACAGGCTAT 6685
Qy 2786 TGTTCATCGCATCAGCGGATTTTTCGCCGCTATTTTACGCGCGATGGGTGACGATCTG 2845
Db 6684 GGTCTGATCAGCGCGCGCTGATCGGCTGCTGCA-----GGGTGCTGATCTG 6634
Qy 2846 TGGACAAACACACCGCTACAAACAGGTAAACCCACGAGGTGACGTGGGGGATGCGCGT 2905
Db 6633 CGGTGAATACGATGTCGCGACGCTGGACGATACCGCGCGCGCTGACGCGGCTCG 6574
Qy 2906 GAACTTGCTGCGCAAGTGGTGTGATTTGTCGCGGCTTCGAGCCGCGCACATCTGCAG 2965
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Qy 2966 CTGGGTTATCAGGTGTTTCTTGGACAAGAGTGGCAGCTGGCGACGCGCAACGCGCTGCGAG 3025
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Qy 3146 CTGGCGGAGAACCGCTGCTCAGCAATCGCGACTATGCCAATCAGCAAGGCTGAGCG 3205
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Qy 3266 GATCGATTCTGGCAACAGCAGCGCGCGCAAGCGTGCAGCGCGCTGCGCGCGGCTGTTT 3325
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QY 5486 GGCCTTTGATCATCTGGAAGGCTTCGCTATGGATGCAAGCAATTAACGGAGCTT 5545
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QY 5546 CGATGACACGCTCGCTTACTGCTATACGTCGCGGGGCTGGTTCGGTTTGATGATGGCGG 5605
DB 3945 GGATGACGCTGTGGAATTCCTACCACTGCGCGGGGTCTGGGCGTGATGATGGCGG 3886
QY 5606 CGTAAATGGGCTGCGGACGAAGCGGTGCTCGATCAAGCTTCGCTGCTTATAGACTGGGCTT 5665
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QY 5666 CCAGCTCACTAACATTTGGGCGGACATTTGTAAGATGCGCAAAATGCTGCTGCTATCT 5725
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QY 5726 GCCCAATCCTGGCTCGATCAGGCGGGATTAACGCGCGATACGCTGACTGCACCGCAACA 5785
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QY 5846 CTCGCGCGATCCGGTTTACCGGGTTTACCGCTGCGCTCGCGGTGGGCGCATCGCTACGCG 5905
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QY 5966 TTCAGCGGAGCGCACCAAGTGAAGGTGAAAACTGGCGCTGCTGGTGAAGGGGCGAGTTT 6025
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QY 6026 GCGCATCATCTCGGCTGTGCTCGTCTGTAACCGCGTCCGCTGCTGTGTCGCGAGGCTCC 6085
DB 3474 GCGGCGCATCGGCTGCGCGCGGCGGAAATCAGCGCGCATCGGCGCTGTGACCCGACC 3415
QY 6086 TCG 6088
DB 3414 GCG 3412

RESULT 5
US-08-980-832-27/c

; Sequence 27, Application US/08980832B
; Patent No. 6291204
; GENERAL INFORMATION:
; APPLICANT: Pasamontes, Luis
; APPLICANT: Teygankov, Yuri
; TITLE OF INVENTION: Improved Fermentative Carotenoid Production
; FILE REFERENCE: Improved Fermentative Carotenoid
; CURRENT APPLICATION NUMBER: US/08/980,832B
; CURRENT FILING DATE: 1997-12-01
; NUMBER OF SEQ ID NOS: 66
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 27
; LENGTH: 11233
; TYPE: DNA
; ORGANISM: Unknown
; FEATURE:
; OTHER INFORMATION: Description of Unknown Organism: Plasmid pZea4
US-08-980-832-27

Query Match 14.8%; Score 1035.4; DB 3; Length 11233;
Best Local Similarity 56.5%; Pred. No. 8.9e-257;
Matches 2037; Conservative 0; Mismatches 1536; Indels 30; Gaps 5;

QY 2486 GTGCCAGCAGCAAGTCGTGCTGCGGAGCGGACCTGATGCGGACCAATACGATGTGATT 2545

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QY 2786 TGTTCATCGCATCAGCGGATTTTGGCGGCATCTTTACGCGGCGATGGGTGACGATCTG 2845
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QY 3086 CTGCGCTCAGCGCGGATCGGCTATGATGAAAGATACCCATTAAGTTAAACAGCGCGCG 3145
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QY 3686 TGAACGACATTAATGTTGATGCGGAGAGCTTTGGCGGCTGCGGCTGCGGATTCGCCCTGC 3745
DB |||||
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DB |||||
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DB 6358 ATGTCTGGAACGATCAGGCGCACGCTTTCGATGCAAGGCCGAGCGGTCTGAGCCGACCCCG 6299
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DB 6178 ACGACGACGAGCTGATCGCCAGGTGCGCTCTCTCAATCCCGCCGATGTCGATGGCT 6119
QY 4046 ATCGTCAATTTCTGCTTATTCACGTTGAATTTAGAGAGGTTTATCTGAATTCGGCA 4105
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DB 6118 ATCGCGCTTCCAGATTAACGCGAGGAGGTCTATCGCGAGGGGTATCTGAAGCTGGGGA 6059
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QY 4526 ACAACATGCTTCGCGCACCATCGCTGGCAATGAACGTTGCGACATCGCTGAAGCGTAAAGC 4585
DB |||||
DB 5638 GCGACTGTTGGGCGATACCGCGCGCGGCGGCGACCAAGCGCGGATCTCTGAACCGGCGAGC 5579
QY 4586 GCATGAGCAATCGCTGTTGTAATCTATTTTGGCTGAAATCAGCGCATGAACAGCTGCG 4645
DB |||||
DB 5578 GCTGCTGATGCTGCTGTTGCTGCTGCAATTTTCGCGCTGTCTCAAGCGCGCGGAGAACCTGG 5519
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DB 5518 CCCACCAACGCTCATCTTTCGCGCGCGGCTACAAGGCGGCTGTTGAACGAGATCTTCAACG 5459

QY 4706 GCAGCAGCTGCGCAGACGATTTTTCATTTTACCTGACGCGCTGCGAGCAGCATCGT 4765
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QY 4766 CGTGGGACCGCGCGCTGCGGAGCTTTTATGTTTATGCTTACGCGCGGTGCGGATCTCGGCA 4825
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QY 4826 CCGCTGACATCGATCTGGCAACAGAGAACCGCGCTTTCGGGATGCAATTTTGTCTTATC 4885
DB |||||
DB 5338 GCGCGGATGTCATTTGGAGCCGAGGCGCGGCTATGCGGAGGCGATCTTCGAGGAC 5279
QY 4886 TGAAGCAGCATATATGTCGCGGATTAATCTGACGAATTAAGTGAACACACAGAAATGTTTACG 4945
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DB 5278 TGAAGCGCGCGCGCATCTCCGACCTGCGCAAGACCTGACCGTCAAGCGCATCTTCAGCG 5219
QY 4946 CGTTTGAATTTTCGCGACACGCTGATGCCATCAAGCTCGGCTCGGCTTTCGCTGAGCGCA 5005
DB |||||
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QY 5006 TTTTGAACGAGCGCTGTTTCGCGCATTAACCGCGATGCCGATATCAGCAATCTCT 5065
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QY 5126 AGGCGACCGCAGCGTATGCTGAGGATTCGCGCGGATGAATCGACAGCTTTACTTGA 5185
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DB 5038 AGGCGACGCGCAGCTATGCTGCGACCTTGGCGCTGCGCATGACCGATCTGACGCGCAC 4979
QY 5186 GCAAGTAAACGCAACCTGCGGTGGCTCCAGAGTTTTCGCCACCGCGCGCAAGCTGTT 5245
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QY 5246 TGATGCAACCGCGCGCGCAGCAGCTGATCTGATGCTGCTGCTGCTGCTGCTGCTGCTGCTG 5305
DB |||||
DB 4921 GCGCGCGGATCCGCGAGGATACGTCATGCTCTATGCTGCTGCTGCTGCTGCTGCTGCTGCTG 4862
QY 5306 TGTGATTTGATGGGCAACCGCTGCGGGAAGGCGGACGCGCATGCTGCTGCTGCTGCTGCTGCTGCTG 5365
DB |||||
DB 4861 CGTGATCGACGCGGAGGTGATGGGTTCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 4808
QY 5366 GGCAGCTATGCAAGCTCTGCAAAATTTGAAACCGCGCGGCTTACAGCGCGCGCATGCA 5425
DB |||||
DB 4807 GCGCGGCTGCGGCGCTGCGCGCGACACGCTGCGCGCTGCGCGCGCTGCGCGCGCTGCGCGCTG 4748
QY 5426 TGAACCGCGCTTTAGGCGGTTTTCAGGAAGTGGCGATCATTTCCAGCTGCGCGCAACAACT 5485
DB |||||
DB 4747 GTGCGCGCTTTCGCGGCGCTGCGCGAGTCCGCGCGGCGCATGATTTTCGCGGACCTTTG 4688
QY 5486 GCGGTTTGAATCATCTGAAGGCTTTCGCTATGGAATGCAAGCAACGAAACATTAACGAGCTT 5545
DB |||||
DB 4687 GCGGATGGAACCTGATCGAGGTTTCGCGGATGGAATGTCGCGGATCGCGAATACCGGAGCT 4628
QY 5546 CGATGACACGCTGCTTACTGCTATCAGTCCGCGGCGTGGCTGCTGCTGCTGCTGCTGCTGCTGCTG 5605
DB |||||
DB 4627 GGAATGCTGCTGGAATTTCTTACAGCTGCGCGGCGTGGCTGCTGCTGCTGCTGCTGCTGCTG 4568
QY 5606 CGTAATGGGCGTGGCGGAGCGGTGCTGCTGATCAGCGCTGCGATTTAGGACTGGCGCT 5665
DB |||||
DB 4567 GGTGATGGGCGTGCAGGACGATGGGTGCTGGAATCGCGCTGCGATCTGGGCTTTCGCTT 4508
QY 5666 CCAGCTCACTAACAATGCGCGGACATTTGTAGAAAGATGCCGAAATGCTGCTGCTGCTGCTGCTGCTG 5725
DB |||||
DB 4507 CCAGCTGCAACCAATCGCTGCGGACGTGATCGAGATGCCCATCGCGCTGCTGCTGCTGCTGCTGCTG 4448
QY 5726 GCGGCAATCTGCTGCTGATCAGGCGGATTAACGCGCGATACGCTGACTGACCGGCAACA 5785
DB |||||
DB 4447 GCCTGCGGACGTGGCTGGCGGAGCGGG-----GCCGACGCTTGAAGGCTCGGCTGCC 4397
QY 5786 TCGTGACGCGCTCGCTCTACTGCGAGCGCGTTTTAGTGGCGGAGCGGAAACCTTATTCA 5845


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Db 4096 GCG 4094
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4285 TATACCTTAATTCATGCGCTGGAGCGTGAATGGGGCTGTGGTTTCCGCGCGGCGCAC 4344
|||
601 TACACCTTGATTCACGCCCTGGAGCGGGAATGGGGCTGTGGTTTCCGCGCGGCGCAC 660
|||
4345 GCGCGCTGTGTGAGGGCATGGGCGGCACTGTTCGAGGACTTGGGCGGCGAGCTGTATTCTG 4404
|||
661 GGTGGCTGTGTGAGGGCATGGTGAAGCTGTTCAGGATCTTGGCGGCAACCTCACCTT 720
|||
4405 AATGCCGAAGTAGAGCTGAGCTGGAAAACAGCGGCGAATCGCATTTAGCGGCGGTTCAGTTAG 4464
|||
721 AACGCTCAGGTTCAGCGGCTGGAGACGGTGGACAAATCAGGTGAAGGCGGTGCATCTGGT 780
|||
4465 GGGGAGCAGCGCTTCGATGCGCGCTGTGCGCTTCCAAATGCGGAGCTGGTGACATACCTAC 4524
|||
781 AACGGGAGCGGCTGGAGGCTGCGCGGTGCGCTTCGAAACGCGGACGTGTAAATACCTAT 840
|||
4525 GACAAACTGCTTCGCCCAACCTCCGCTGGCAATGAAACGTCGCAATCGCTGAAACGCTAAG 4584
|||
841 GCCGACTGCTCGGCCATCACCCGCGCGCTACGGCCAAAGCTGAAACGCAAG 900
|||
4585 CGCATGAGCAACTCGCTGTTTGTACTCTATTTTGGGCTGAAATCAGCGCGCATGAACAGCTC 4644
|||
901 CGCATGAGCAACTCGCTGTTTGTCTCTATTTTGGGCTGGATCAACATCACCCAGCTG 960
|||
4645 GCGCACCAACCGCTCTGTTTGGCGCGCTTATCGTGAGTTGATCGATGAGATTTTCAAC 4704
|||
961 GCGCACCATACCGCTCTGTTTGGCGCGCTTATTAAGCGCTAATCGATGAAATTTTCAAG 1020
|||
4705 AGCAGCAGCTGGCAGACGATTTTTCATCTTCATCGCACGCGCTTCGACGAGGATCCG 4764
|||
1021 GCGCACACCTGTGCGGAAGATTTTTCGCTCTATCTGATGCGCTTCGCTAACCGACCG 1080
|||
4765 TCGCTGCGACCGCGCGCTGCGGAGCTTTTATGTGTGTAGCGCGCTGCGCATCTCGGC 4824
|||
1081 TCGCTGCGCGCGCGGCTGCGGAGCTACTATGTCTGCGCGCGCTGCGCACCTCGGT 1140
|||
4825 ACCGCTGACATCGACTGCGCAACAGGAAGACCGGCTTTCGCGGATCGAAATTTTTCCTAT 4884
|||
1141 AACGCCCGCTGCACTGAGGCTGGAAGGCGCGCTTCGCGGATCGCATTTTGTATTAT 1200
|||
4885 CTGAGCAGCAGCTACATCGCGGATTTACGTACGCAATTTAGTGACACACAGAAATGTTTACG 4944
|||
1201 CTCGAAGCGCTATATGCGGGGCTGCGCTCCAGCTCGGTGAGCGCACCGCATGTTTACG 1260
|||
4945 CGCTTTGATTTTCGCGACACGCTGCATGCCATCACGCTCGGCGTTTTCGCTGGAGCG 5004
|||
1261 CCGGAAGATTTTCGCGATACGCTCGATGCTTGGCAGGGGTGAGCGTTTTCATCTGGAGCG 1320
|||
5005 ATTTTGACGCAAGCGCTGTTCCGCGCGCATAAACCGGATGCCGATATCAGCAATCTC 5064
|||
1321 ATCTCACAGAGCGCTGTTCCGCGCGCAACCGCGACAGCGGTGTTGATAACCTC 1380
|||
5065 TATCTGTTGGTTCGCTGAGCTACGATTCAGGCGCGGCGTGGCCGCGCTGATCGGTTCCGCC 5124
|||
1381 TACCTGTTGCGCGCGGAAACGATCCCGCGCTGCGGTGCGCGGCTGATCGGATCCGCC 1440
|||
5125 AAGCCACCGCAGCTGATGCTGGAGGATCCGCCGAA 5163
|||
1441 AAGCAACGGGCCAGTTAATGTTAAAGGATTTAGCGTAA 1479
|||

RESULT 8
US-07-783-705A-10
; Sequence 10, Application US/07783705A
; Patent No. 5429939
; GENERAL INFORMATION:
; APPLICANT: Misawa, No. 5429939ihiko
; APPLICANT: Kobayashi, Kazuo
; APPLICANT: Nakamura, Katsumi
; APPLICANT: Yamano, Shigeyuki
; TITLE OF INVENTION: DNA SEQUENCES USEFUL FOR THE
; SYNTHESIS OF CAROTENOIDS
; NUMBER OF SEQUENCES: 18

Query Match 12.3%; Score 861.4; DB 3; Length 1479;
Best Local Similarity 73.9%; Pred. No. 3.2e-212;
Matches 1093; Conservative 0; Mismatches 386; Indels 0; Gaps 0;

QY 3685 ATGAAACGACATTAATGATTTGGCGCAGCTTTGGCGGCTGGCGCTGCGGATTCGCGT 3744
DB 1 ATGAAACAAACCAATTTGATTTGGCGCGGTTTGGCGGACTGGCGTGGCGATTCGCGCTC 60
QY 3745 CAAGCGGCGGCGATACCAACACCTTACTCGAGCAGCGGACCAACCGGCGGAGCGGCC 3804
DB 61 CAGCGCGGCGGCAATTCCTACCAACGCTGCTGGAGAGCCGCGCAAAACCGCGGCGCGGCC 120
QY 3805 TATGTTTGGAGCAGTGCGTTTACCTTCGATGCGGACCGACCGGTCATCACGATCCC 3864
DB 121 TATGTTACGAAGATCGCGGCTTACCTTTGATGCGGCTCCACCGTCAATCACGATCCC 180
QY 3865 AGCGCCATCGAAGAGTTGTTCACTGCTGGCAGAAATCGCTCAGCGATTACGTGAGCTG 3924
DB 181 TCCGCCATTGAGGAGCTGTTCACTCCCTCGCGGAAACCGCTGAAGGACTACGTTGAGCTG 240
QY 3925 ATGCGGTAACGCCCTTCTATCGCTGCTGCTGGAGATGCGAAGAGCTTGTATACGAC 3984
DB 241 ATGCGGTAACGCCCTTCTATCGCTGCTGCTGGAGAGCGGCAAGGTTTTCGATACGCC 300
QY 3985 AATAATCAGCGCTGCTGGAGCAGCAGATCGCCAGCTTCAATCCGCAAGATGTAGAAGCC 4044
DB 301 AACGATCAGCGCGGCTTGGATTCGAGATCGCGGTTTAAACCCGAAACGAGCTGGCGGC 360
QY 4045 TATCGTCAATTTCTTCCCTATTCAGTGAAGTATTTAGAGGAGTTTATCTGAAATCTCGC 4104
DB 361 TATCACCGCTTCTCGACTACTCTCCGCGGCGGTTTGGCGGAGGCTATCTGAAGCTCGCC 420
QY 4105 ACGGTGCGGTTTCTGAGGTGCTGACATGCTGCGCGCTGCGCGAGTTGGAGCTGCTG 4164
DB 421 GCGGTGCGGTTTCTCTGTTTTCGACATGCTGCGCGCGGCTTCCAACTGCGCGGCTG 480
QY 4165 CAAGCATGCGCAGCGCTTACAGCATGTTGGCGAAATTTATTCAGGACGATCATCTGGT 4224
DB 481 CAGGATGCGCAGCGCTGTACGAAAGTGTGCGGCTACGTGGAAGACGAGCACCTGGCG 540
QY 4225 CAGGCTTTCTTCCACTCATGCTGCTGGCGGTAATCTTTTGGCAACGTCATCGATC 4284
DB 541 CAGGATTTTCTGTTTCACTCGCTGCTGGCGGCAACCCGCTTCCACGCTCTCTATT 600
```

;; CORRESPONDENCE ADDRESS:
;; ADDRESSEE: Ladas & Parry
;; STREET: 26 West 61 Street
;; CITY: New York
;; STATE: NY
;; COUNTRY: USA
;; ZIP: 10023
;; COMPUTER READABLE FORM:
;; MEDIUM TYPE: Diskette, 3.50 inch, 720Kb storage
;; COMPUTER: IBM PC compatible
;; OPERATING SYSTEM: PC-DOS/MS-DOS
;; SOFTWARE: N/A
;; CURRENT APPLICATION DATA:
;; APPLICATION NUMBER: US/07/783,705A
;; FILING DATE: 19911023
;; CLASSIFICATION: 435
;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER: JP 1-103078
;; FILING DATE: 21-APR-1989
;; APPLICATION NUMBER: JP 2-53225
;; FILING DATE: 05-MAR-1990
;; APPLICATION NUMBER: US 07/519,011
;; FILING DATE: 19-APR-1990
;; ATTORNEY/AGENT INFORMATION:
;; NAME: Schwadron, Janet I.
;; REGISTRATION NUMBER: 33,778
;; TELECOMMUNICATION INFORMATION:
;; TELEPHONE: 212-708-1935
;; TELEFAX: 212-246-5959
;; INFORMATION FOR SEQ ID NO: 10:
;; SEQUENCE CHARACTERISTICS:
;; LENGTH: 1479 base pairs
;; TYPE: NUCLEIC ACID
;; STRANDEDNESS: double
;; TOPOLOGY: linear
;; MOLECULE TYPE: other nucleic acid (plasmid DNA)
US-07-783-705A-10

Query Match 11.8%; Score 826.2; DB 2; Length 1479;
Best Local Similarity 72.6%; Pred. No. 4e-203;
Matches 1068; Conservative 0; Mismatches 403; Indels 0; Gaps 0;

Qy	3695	ATGAACCGCATTATGTGATGGCGCAGGCTTTGGCGGCTTGGCGCTGGCGATTCGCGT	3744
Db	1	ATGAACCAACTACCGTAATTTGGTCAGGCTTCGGTGGCTGGCACTGGCAATTCGTCTA	60
Qy	3745	CAAGCGCGGCATACCAACCACTTACTCGAGCAGCGGACAAACCGGCGGACGCGCC	3804
Db	61	CAAGCTCGGGGATCCCCGTCTTACTGCTTGAAACAACGTGATAAACCCGCGGTCGGGT	120
Qy	3805	TATGTGTTGAGGACAGTGGCTTTACCTTCGATGCGGACCAACCGGTGATCACCAGTCC	3864
Db	121	TATGCTACGAGGATCAGGGGTTTACCTTTGATGAGCGCCGACGCTTATCACCAGTCC	180
Qy	3865	AGCGCCATCGAAGAGTGTTCACGCTGCGAGGAAATCGCTCAGCGATTTACGTGAGCTG	3924
Db	181	AGTGCCATTGAAGAACTGTTGCACTGCGCAGGAAACAGTTAAAGAGATGATGTGAACTG	240
Qy	3925	ATGCGGTTAAGCCCTTCTATCGCTGTGCTGGGAAGATGGAACACAGCTTGAATACAC	3984
Db	241	CTGCGGTTACGCGGTTTACCGCTGTGTTGGGAGTCAGGGAAGTCTTTAAATACGAT	300
Qy	3985	AATAATCAGCGCTCTCGAGCAGCAGATCGCAAGTTCAATTCGCAAGATGTAGAAGC	4044
Db	301	AACGATCAAAACCGGCTCGAAGCGCAGATTCAGCGATTTATCCCGCGATGTCGAGGT	360
Qy	4045	TATCGTCAATTTCTTTCCTATTACGTTGAAGTATTTAGAGAGGTTTATCTGAAATCTCGC	4104
Db	361	TATCGTCAAGTTCTCGACTATTACGCGCGGTGTTTAAAGAGGCTATCTAAAGCTCGT	420
Qy	4105	ACGGTCCGCTTCTGCAGGTGGTGACATGCTGCGCGTCGCGCGCAGCTTGGAGCTG	4164
Db	421	ACTGTCCCTTTTATCGTTTACAGACATGCTTCGCGCGCAGCCTCAACTGCGGAACTG	480

Qy	4165	CAAGCATGGCGCAGCGTCTACAGCATGGTGGCGAAATTTATTTCAGACGATCATCTCGCT	4224
Db	481	CAGGCATGGAGAAAGCGTTTACAGTAAGGTGGCAGTTACATCGAAGATGAACATCTCGCG	540
Qy	4225	CAGGCGTTTCTCTTCCACTCATTTGCTGGTGGCGGTAATCTTTTTCGAAAGTCATCGATC	4284
Db	541	CAGGCGTTTCTCTTCCACTCGCTGTTGGTGGCGGCAATCCCTTCGCCACCTCATCCATT	600
Qy	4285	TATACCTTAATTCATGCGCTGGAGGTGAATGGGCGGTGTGGTTTTCGCGCGCGCGCAC	4344
Db	601	TATAGTTGATACACGCGCTGGAGGTGAGTGGGCGGTCTGGTTTTCGCGGTGGCGCAC	660
Qy	4345	GGCGCGTGGTGCAGGGCATGGCGCACTGTTTCGAGGACTTTGGGCGGCGAGCTGTTACTG	4404
Db	661	GGCGCATTTAGTTTCAGGGGATGATAAAGCTGTTTCAGGATCTGGGTGGCGAAGTCGTGTTA	720
Qy	4405	AATGCCGAAGTCAGCCAGCTGGAAACAGCGGCAATCGCATTTAGCGGCTTCAGTTAGAG	4464
Db	721	AACGCCAGATCAGCCATATGGAACGACAGGAAACAAGATTGAAGCCGTGCATTTAGAG	780
Qy	4465	GGCGAGCAGCTTCGATGCGCGCTGCTGGCTCCAATGCCGAGTGTGTGCATACCTAC	4524
Db	781	GACGTCCAGGTTCTTGACGAAGCGCTCGCTCAATTCAGATGTGTTTCATACCTAT	840
Qy	4525	GACAACTGCTTCGCCACCATCCGCTGGCAATGAAACGTGCGACAATCGCTGAAGCGTAAG	4584
Db	841	CGCGACCTGTTAAGCCAGCACCCCTGCCGCGGTAAAGCAGTCCAACAACCTGCAGACTAAG	900
Qy	4585	CGATGAGCAACTGCTGCTGTTGTTACTTATTTGGCCCTGAATCAGCGCGATGAACAGCTC	4644
Db	901	CGCATGAGTAACTCTCTGTTGCTCTATTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTT	960
Qy	4645	GGCACCACACCGCTGCTGTTTGGCCCGGCTTATCGTGTGATGATGATGATGATGATGATG	4704
Db	961	GGCATACACCGGTTGTTTGGCCCGGCTTACCGCGAGCTGATTTGACGAAATTTTAAAT	1020
Qy	4705	AGCAGCCAGCTGGCAGACGATTTTTCATCTTACCTGCAACGCGCCCTGCAGCAGCATCCG	4764
Db	1021	CATGATGCGCTCGCAGAGGACTTCTCACTTTATCTGCAACGCGCCCTGTGTACGAGATTCC	1080
Qy	4765	TCGCTGGCACCGCCGCTGGCGAGCTTTTATGTTAGCGCGCGGTGCGCGATCTCGGC	4824
Db	1081	TCACTGGCGCTGAAGGTTGGCGAGTTACTATGTGTTGGCGCGGTGCGCGATTTAGGC	1140
Qy	4825	ACCGTCACATCGACTGCAACAGAGGACCGCGCTTTCGCGATCGAATTTTTCCTTAT	4884
Db	1141	ACCGCAACCTCGACTGGACGGTTGAGGGGCGCAAACTACGCGACCGTATTTTTCGCTAC	1200
Qy	4885	CTGGAGCAGCACTACATCGCGGGATTTAGTCAGCAATTTAGTGACACACAGATGTTTACG	4944
Db	1201	CTTGAGCAGCATTACATGCTGGCTTAGCGAGTCAGTGTGTCAGCACCGGATGTTTACG	1260
Qy	4945	CCGTTTGAATTTTCGACACCGCTGATGCCATCAGCGCTCGGCTGTTTCGCTGAGCGC	5004
Db	1261	CCGTTTGAATTTTCGACACCGCTTAAATGCTTATGCTTATGCTTATGCTTATGCTTATG	1320
Qy	5005	ATTTTGACGCAAAAGCGCTGTTTCGCGCGCATTAACCGCGATGCGGATCAGCAATCTC	5064
Db	1321	GTTCTTACCCAGAGCGCTGTTTTCGCGCGCATTAACCGCGATTAACCAATTAATCTCTC	1380
Qy	5065	TATCTGGTGGGTGCGGTGATCCATCCAGCGCGCGGTGCGCGGCTGATCGGTTTCGCGC	5124
Db	1381	TACCTGGTGGCGCAGGACGATCCCGCGCAGGCAATCTTCGCGCTCATCGGCTCGCA	1440
Qy	5125	AAGGCCACCGCAGGCTGATCTGGAGATC	5155
Db	1441	AAAGCAGCAGCAGGTTTGTGCTGGAGATC	1471

RESULT 9

US-08-095-726-7

; Sequence 7, Application US/08095726

Db 1433 TCGCCGAAAGCACCCAGCCTGTGATGATGAGGATC---TGCAATGAGCAACCCCGCT 1489
Qy 5180 ACTTGAGCAAGTAACGCAAAACCATGGC 5206
Db 1490 GCTTGACCACGCCAGCAGACCATGGC 1516

RESULT 10

US-08-096-043-7
; Sequence 7, Application US/08096043
; Patent No. 5530189
; GENERAL INFORMATION:
; APPLICANT: Ausich, Rodney L
; APPLICANT: Brinkhaus, Friedrich L
; APPLICANT: Mukharji, Indrani
; APPLICANT: Proffitt, John H
; APPLICANT: Yarger, James G
; APPLICANT: Yen, Hwei-Che B
; TITLE OF INVENTION: Lycopene Biosynthesis in
; TITLE OF INVENTION: Genetically Engineered Hosts
; NUMBER OF SEQUENCES: 70
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amoco Corp., Patents and Licensing Dept
; STREET: 200 E Randolph St
; CITY: Chicago
; STATE: IL
; COUNTRY: USA
; ZIP: 60680-0703
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.24
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/096,043
; FILING DATE: 22-JUL-1993
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/785,568
; FILING DATE: 30-OCT-1991
; ATTORNEY/AGENT INFORMATION:
; NAME: Galloway, No. 5530189val B
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 3128567180
; TELEFAX: 3128564972
; INFORMATION FOR SEQ ID NO: 7:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1518 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: DNA (genomic)
US-08-096-043-7

Query Match 10.2%; Score 713.4; DB 2; Length 1518;
Best Local Similarity 67.7%; Pred. No. 6e-174;
Matches 1034; Conservative 0; Mismatches 481; Indels 12; Gaps 2;
Qy 3680 AAAAAATGAACGACCTATGTGATGGCGAGCGCTTTGGCGGCTGGCGGCTGGCGATTC 3739
Db 2 AAACCATGGAAAAAACCGTTGTGATTTGGCGAGCGCTTTGTGTGGCGAGCGCTTTGGCGGCTGGCGATTC 61
Qy 3740 GCCTGCAAGCGGGCGGATACCAACACCTTACTCGAGCAGCGCGACAAACCGGGCGGAC 3799
Db 62 GCCTGCAAGCGGGCGGATACCAACCGTACTGCTGGAGCAGCGGGGACAAAGCCCGGCGTC 121
Qy 3800 GCGCCTATGTGTTTGGAGCAGTGGCTTTTACCTTCGATGCGGACCCACCAAGTGTATCACCG 3859
Db 122 GGGCCTACGCTGGCATGACGAGGCTTTTACCTTTGACCGCGGGCGGCGGATCACCG 181
Qy 3860 ATCCGACCGCATCGAAGATTGTTACGCTGGCAGGAGAAATCGCTCAGCGATTAACGTG 3919
Db 182 ATCTACCGGCTTGGAGCGCTGTTTACCCCTGGCGCGGATGAGGAGATTACGTCA 241

Qy 3920 AGCTGATGCGCGTAACGCCCTTCTATCGCCTGTGCTGGGAAGATGCGAAACAGCTTGATT 3979
Db 242 GGTCTGCTCCCGTAAACCCCTTCTACCGACTCTGCTGGAGTCCCGGAGAGACCCCTCGACT 301
Qy 3980 ACGACAATAATCAGCCGCTGCTGGAGCAGAGATGCGCACGTTTCAATCCGCAAGATGTAG 4039
Db 302 ATGCTAACGACAGCTTCGAGCTTGAGGGCGAGATTACCCAGTTTCAACCCCGCGACGTCG 361
Qy 4040 AAGGCTATCGTCAATTTCTTGCCCTATTACGCTGAAGTATTATTAGAGAGGTTTATCTGAAC 4099
Db 362 AGGCTACCGGCGCTTCTGCTTACTCCCGAGCGGTATTCCAGGAGGGATATTTCGCGCC 421
Qy 4100 TCGCAGCAGGTCGCTTCTGAGGTGCGTGACATGCTGCGGTGCGCGGTGCGCGGTGGGAC 4159
Db 422 TCGCAGCGTGGCGTCTCTCTCTTTTTCGCGACATGCTGCGCGCGCGCGGCGAGCTGCTTA 481
Qy 4160 GTCTGCAAGCATGCGGAGCGCTCTACAGCATGTTGGGGAATTTATTTCAGGACGATCATC 4219
Db 482 AGCTCCAGGCGTGGCAGAGCGTCTACCAAGTCGGTTTTCGCGCTTTATTGAGGATGAGCATC 541
Qy 4220 TGGCTCAGGCGTTTCTTCCACTCATGCTGTTGGGCGGTAACTCTTTTTCGCAAGCTCAT 4279
Db 542 TGGCGCAGGCGCTTCTCGTTCCACTCCCTGCTGTTAGCGCGCAACCCCTTTCACCACTCGT 601
Qy 4280 CGATCTATACCTTAATTTCATGCGCTGGAGCGTGAATGGGCGGTGTGTTTCCGCGCGCGC 4339
Db 602 CCATCTACACCTCGATCCAACCGCTTGGCGGAGTGGGGGTCTGGTTCCCTGAGGGCGC 661
Qy 4340 GCACCGGCGCTGCTGCAAGCGCATGTTTTCGAGGACTTTGGGCGCGGAGCTGT 4399
Db 662 GCACCGGCGCTGCTGCAAGCGCATGTTTTCGAGGACTTTTACCGATCTGGGCGGGAGATCG 721
Qy 4400 TACTGAATGCGAAGTGCAGCGCTGGAACACGAGCGCAATTCGATAGCGGCGCTTCACT 4459
Db 722 AACTCAACGCGCGGCTGGAAGAGCTGTTGTTGGCGGATTAACCGCGTAAGCCAGGTCGCGC 781
Qy 4460 TAGAGGCGGACGACGCTTTCGATGCGCGCTGTGGCTTCAATGCGCACTGGTGCATTA 4519
Db 782 TCGCGGATGCTCGGATCTTTTGACACCGAGCGCTAGCTCGAAAGCTGAGCTGGTGAACA 841
Qy 4520 CCTACGACAACTGCTTTCGCGCACCATCGCTGGCAATGAACGTCGCAATCGCTGGAAGC 4579
Db 842 CCTATAAAAGCTGCTCGGCACCATACCGTGGGCGAGAGCGGCGGCGCACGCTGGAGC 901
Qy 4580 GTAGCGCATGAGCAACTCGCTGTTGTATCTCTATTTTGGCTGAAATGAGCGCGATGAAC 4639
Db 902 GCAAGAGCATGAGCAACTCGCTGTTGTGCTCTACTTTCGGCTTGAACAGAGCTCATTTCC 961
Qy 4640 AGCTCGCGCACCAACCGCTCTGTTTTCGCGCGCTTATCGTGAGTTGATCGATGAGATT 4699
Db 962 AGCTGGCGCACCATACCATCTGTTTTCGCTCCCGCTACCGGAGCTGATCGACGAGATCT 1021
Qy 4700 TCAACAGCAGCAGCTGCGCAGACGATTTTTCATTTTACCTTCGACGCGCTTCGAGCAGCG 4759
Db 1022 TTACCGGCGAGCGCTGCGGATGACTTCTCGCTCTACCTGCACTCGCCCTGCGTGACCG 1081
Qy 4760 ATCGCTGCTGGCACCGCGCGCTGCGGAGCTTTTATGTTTATGAGCGCGCTGCGGATC 4819
Db 1082 ATCCCTGCTGCGCGCTTCCCGCTGCGCGAGCTTCTACGTTCTGCGCGCTGCGCGATC 1141
Qy 4820 TCGGACCGCTGACATCGACTGGCAACAGGAAGGACCGCTTCGCGGATCGAATTTTTCG 4879
Db 1142 TTGGCAACGCGCGCTGAGCTTGGCGCAGGAGGGGCGCAAGCTCGGCGACCGCATCTTTG 1201
Qy 4880 CTTATCTGAGCAGCATACTACATGCGGGATTTAGCTCAGCAATTTAGTGACACACAGAAATGT 4939
Db 1202 ACTACCTTGAAGAGCGCTATATGCGCGCTGCGTGGTAGCCAGCTGCTGACCCAGCGGATCT 1261
Qy 4940 TTACCGCGTTGATTTCGCGACACGCTGATGCCCATTCAGGCTCGGCGCTTTCGCTGG 4999
Db 1262 TTACCGCGCAGACTTTCGACACGCTTGGATTCGCGATCTTTGGGATCGCTTTTTCATCGAGC 1321


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Db 902 GCAAGAGCATGAGCAATCGCTGTTGTGCTCTACTTGGGCTGAACACGAGCTCATTTCCC 961
Qy 4640 AGCTCGGCGCACCAACCGTCTGTTTGGCCGCGTTCATCGTGAGTTGATCGATGAGATTT 4699
Db 962 AGCTGGGCGACCATACCACTGTTTGGTCCCGCTACCGGAGCTGATCGACGAGATCT 1021
Qy 4700 TCAACAGCAGCAGCTGGCAGACGATTTTTCACCTTTACCTGCACGCGCCTTCGACGAGCG 4759
Db 1022 TTACCGGCGAGCGCTGCGGATGACTTCTCGCTCTACCTGCACTGCGCCCTGCTGACCG 1081
Qy 4760 ATCCGTGCTGGCAGCGCCCGCTGCGGAGCTTTTATGTTTATGTTTATGCGGCTGCGGATC 4819
Db 1082 ATCCCTGCTGCGCCCTCCCGCTGCGGAGCTTTCTAGTCTGCGCCCGCTGCGGATC 1141
Qy 4820 TCGGACCGCTGACATGACCTGGCAACAGGAAGACCGCTTTCGCGGATCGAATTTTGT 4879
Db 1142 TTGGCAAGCGCCGCTGACTGGGCGGAGGAGGGCGGAGCTGCGGACCGCATCTTTG 1201
Qy 4880 CTTATCTGGAGCAGCACTACATGCGGGATPACGTTCAGCAATATAGTGACACACAGAATGT 4939
Db 1202 ACTACCTTGAAGAGCGCTATATGCGCGCTGCGTAGCCAGCTGTTGACCCAGCGATCT 1261
Qy 4940 TTAGCCGCTTTGATTTTCGACACAGCTGATGCGGATCAGCGCTGCGGCTTTTCGCTGG 4999
Db 1262 TTACCGGCGAGACTTTCACGACACGCTTGGATCGGATCTTGGGATCGCTTTTCATCGAGC 1321
Qy 5000 AGCCGATTTTACCAAGAGCGCTGTTTCGCGCGCATACCGCGATCCGATATACGA 5059
Db 1322 CGCTTCGTTGACCAAGCTTGTTCGCGGCAACGCGACACGACATTC-----AA 1372
Qy 5060 ATCTCTATCTGGTGGTGGTACGATCAGCATCCAGCGCGGGCGTCCCGGCGTGTATCGGTT 5119
Db 1373 ACCTCTACCTGGTGGCGGAGTACTCACCTTGGCGGGGATTCCTGGGCTAGTGGGCC 1432
Qy 5120 CGGCAAGGCCACCGCAGGCTGATGCTGGAGGATCGCGCGGAATGAATCGACGCTTT 5179
Db 1433 TCGCGGAAGCACCGCGAGCTGATGATGAGGATC---TGCAATGAGCAACCGCGCT 1489
Qy 5180 ACTTGACCAAGTACGCAACCATGGC 5206
Db 1490 GCTTGACCCACCGCAGACCATGGC 1516
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RESULT 12

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US-08-095-726-9
; Sequence 9, Application US/08095726
; Patent No. 5530188
; GENERAL INFORMATION:
; APPLICANT: Ausich, Rodney L
; APPLICANT: Brinkhaus, Friedhelm L
; APPLICANT: Mukharji, Indrani
; APPLICANT: Proffitt, John H
; APPLICANT: Yarger, James G
; APPLICANT: Yen, Hwei-Che B
; TITLE OF INVENTION: Beta-Carotene Biosynthesis in
; OPERATING SYSTEM: Genetically Engineered Hosts
; NUMBER OF SEQUENCES: 79
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amoco Corp., Patents and Licensing Dept
; STREET: 200 E Randolph St
; CITY: Chicago
; STATE: IL
; COUNTRY: USA
; ZIP: 60680-0703
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.24
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/095,726
; FILING DATE: 21-JUL-1993
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CLASSIFICATION: 435
PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/785,566
; FILING DATE: 30-OCT-1991
; ATTORNEY/AGENT INFORMATION:
; NAME: Galloway, No. 5530188val B
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 3128567180
; TELEFAX: 3128564972
; INFORMATION FOR SEQ ID NO: 9:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1522 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: DNA (genomic)
US-08-095-726-9

Query Match 10.1%; Score 708.4; DB 2; Length 1522;
Best Local Similarity 67.6%; Pred. No. 1.2e-172;
Matches 1029; Conservative 0; Mismatches 481; Indels 12; Gaps 2;

Qy 3685 ATGAAACGCACTTATGTGATTTGGCGCAGGCTTTGGCGCTGGCGATTCGCGCTG 3744
Db 11 ATGGAATAAAACCGTTGTGATTGGCGCAGGCTTTGGTGGCTGGCGCTGGCGATTCGCGCTG 70
Qy 3745 CAAGCGCGGCGCATACCAACACCTTACTCGAGCAGCGGACAAACCGGCGGACGCGCC 3804
Db 71 CAGCGCGCAGGATCCCAACCGTACTGCTGAGCAGCGGCAAGCCGCGGCTGGGCCC 130
Qy 3805 TATGTGTTTGAGGACAGTGGCTTTTACCTTCGATGCGGACCCACCGTGATCACCGATCCC 3864
Db 131 TAGCTCTGGCATGACCAAGGCTTTTACCTTTGACGCGCGGCGAGGTGATCACCGATCCT 190
Qy 3865 AGCGCCATCAAGAGTTGTTTACGCTGCGAGGAAATTCGCTCAGCGATTTAGTCGAGCTG 3924
Db 191 ACCGCGTTGAGGCGCTGTTTACCTGCGCGGAGGCGCATGAGGATTTAGCTCAGGCTG 250
Qy 3925 ATCCGTTACGCGCTTCTATCGCTGCTGCGGAGATGCGCAACAGCTTGTATTAGAC 3984
Db 251 CTGCGGTAATAACCCCTTCTACCGACTCTGCTGGAGTTCGCGGAAGACCTTCGACTATGCT 310
Qy 3985 AATAATCAGCGCTGCTGGAGCAGCATCCGACAGTTTCAATCCGCAAGATGTAGAAAGGC 4044
Db 311 AACGACAGCTTCGAGCTTTGAGGCGCAGATTACCCAGTTCAACCCCGGAGCTCGAGGCG 370
Qy 4045 TATCGTCAATTTCTTGCCTATTTCAGTGAAAGTATTTAGAGAGGTTTATCGAACTCGCG 4104
Db 371 TACCGGCGCTTTCTGGCTTACTCCAGCGGCTATTTCCAGGAGGATATTTGCGCTCGGC 430
Qy 4105 ACGTGCGCTTTCTGCAGGTTGCGTGCATGCTGCGGCTGCGCGGAGTTGGGAGCTG 4164
Db 431 AGCGTGGCTTCTCTCTTTTCGCGACATGCTGCGCGCGGCGGCGAGCTGTTAAGCTC 490
Qy 4165 CAAGCATGCGCGCAGCTTCTACAGCATGTTGGCGAAATTTATTTCAGGACGATCATCTCGT 4224
Db 491 CAGCGTGGCAGAGCGTCTACCACTCGGTTTCGCGCTTTATTGAGGATGAGCATCTCGG 550
Qy 4225 CAGCGCTTTCTTCCACTCATTTGCTGGTGGCGGTAATCTTTTGAAGCTATCGATC 4284
Db 551 CAGCGCTTCTGTTTCCACTCCCTGCTGTTAGGCGGCAACCCCTTCACCACTCTGCTCCATC 610
Qy 4285 TATACCTTATTTTCAGGCTGAGCGTGAATGGGCGTGTGTTTCCGCGGCGGCGAC 4344
Db 611 TACACCTGATCCACGCGCTTGAAGCGGAGTGGGCGGCTGTTGTTTCCCTGAGGCGGCGAC 670
Qy 4345 GCGCGCTGTTGAGGCGCATGCGCGACTCTTTCAGGACTTTGGCGCGGAGCTGTTTACTG 4404
Db 671 GCGCGCTGTTGAGGCGCATGTTGAGGCTGTTTACCGATCTGGCGGCGGAGATCGAATC 730
Qy 4405 AATGCCGAAGTGAAGCGGCTGGAACACGCGCAATCGCAATAGCGCGCTTCAAGTTAGAG 4464
Db 731 AACGCCCGGCTCGAAGAGCTGGTGGTGGCGGATAACCGCGTAAGCCAGGTCGCGCTCGCG 790
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Qy	4465	GGGGAGCAGCGCTTCGATGCGCGCGTGTGGCCTCCAATGCCAGCTGGTGCATACCTAC	4524
Db	791	GATGGTCCGATCTTTGACACCGAGCGGTAGCTCGAAGCGCTGACGTGGTGAACACCTAT	850
Qy	4525	GACAACTGTTCCGCCAACCATCCGCTGGCAATGAAGTCGCGACATCGCTGAAGCGTAAG	4584
Db	851	AAAAAGCTGTCTCGCACCATACCGTGGGCGAGAAGCGGGCGACGGCTGGAGCGCAAG	910
Qy	4585	CGCATGAGCAACTCGCTGTTGTACTCTATTTTGGCTGGAATCAGCGCATGAACAGCTC	4644
Db	911	AGCATGAGCAACTCGCTGTTGTGCTACTTTGGGCTGAACAGAGCTCATCTCCAGCTG	970
Qy	4645	GCGCACCAACCGCTCTGTTTGGCCCGCGTATCTGTGAGTTGATCGATGAGATTTTCAAC	4704
Db	971	GCGCACCATACCATCTGTTTGGTCCCGCTACCGGGAGCTGATCGAGGAGATCTTTACC	1030
Qy	4705	AGCAGCAGCTGGCAGACGATTTTCTACTTTACTGCA CGCGCCCTGCAGCAGCATCGG	4764
Db	1031	GGCAGCGCTGGCGGATGACTTCTCGCTCTACTGCACTCGCCCTGCGTGACCGATCCC	1090
Qy	4765	TCGCTGCACCGCCCGGCTGGGAGAGCTTTATGTGTTAGCGCGGTGCCGATCTCGGC	4824
Db	1091	TCGCTCGCGCTCCCGCGTGGCGAGCTTCTACGTGCTGGCCCGGTGCCGCATCTTGGC	1150
Qy	4825	ACCGCTGACATCGACTGCGCAACGAGGAGGACCGCGCTTGC CGCATCGAATTTTGTCTTAT	4884
Db	1151	AACCGCGCGTGGACTCTGGGCGAGAGGGGCGGAGAGCTGCGGACCGCATCTTTGACTAC	1210
Qy	4885	CTGAGCAGCACTACATGCGCGGATTAACGTGAGCAATAGTGTGACACAGAAATGTTTACG	4944
Db	1211	CTTGAAGCGCTATATGCGCGGCTGGGTAGCCAGCTGGTGACCCAGCGGATCTTTACC	1270
Qy	4945	CCGTTTGATTTTCGCGACAGCTGCATGCCCATCA CGGCTCGGGGTTTTCGCTGGAGCGG	5004
Db	1271	CGGCAGACTTCACGACACGCTTGGATCGCGATCTTGGGATCGCTTTTTCATCGAGCGCGCT	1330
Qy	5005	ATTTTGAAGCAAGCGCTGGTTCCGCGCGCATAAACCGATGCCGATATCAGCAATCTC	5064
Db	1331	TCGTTGACCCAAAGGCTTGTTCGCGCGCAACCGCGACACGACATTC-----AAACCTC	1381
Qy	5065	TATCTGGTGGGTGCGGTACGATCCAGGCGCGGCGTGC CGGCGGTGATCGGTTCCGGCC	5124
Db	1382	TACCTGGTGGCGCAGGTACTCACCTTGGCGCGGGCATTCCTGGCGTAGTGGGCTCGCC	1441
Qy	5125	AAGGCCACCGCAGGCTGATGCTGGAGGATCGCGCGGAATGAATCGACAGCTTTACTTG	5184
Db	1442	GAAAGCACCGCAGCCTGATGATTGAGGATC---TGCAATGAGCAACCGCGCTGCTTG	1498
Qy	5185	AGCAAGTAAACGCAACCATGGC	5206
Db	1499	ACCACGCCAGCTGACCATGGC	1520

RESULT 13

US-08-096-043-9
; Sequence 9, Application US/08096043
; Patent No. 5530189

; FACILITY NO. 3530189
: GENERAL INFORMATION:

/ GENERAL INFORMATION:
 / APPLICANT: Auslich, Rodney L
 / APPLICANT: Brinkhaus, Friedhelm L
 / APPLICANT: Mukharji, Indrani
 / APPLICANT: Proffitt, John H
 / APPLICANT: Yarger, James G
 / APPLICANT: Yen, Huel-Che B
 / TITLE OF INVENTION: Lycopene Biosynthesis in
 / TITLE OF INVENTION: Genetically Engineered Hosts
 / NUMBER OF SEQUENCES: 70
 / CORRESPONDENCE ADDRESS:
 / ADDRESS: Amoco Corp., Patents and Licensing Dept
 / STREET: 200 E Randolph St
 / CITY: Chicago
 / STATE: IL

Db 611 TACACCTGATCCAGCCCTTGTAGCGGAGTGGGGGTCTGGTTCCCTTGGCGGCGCACC 670
Qy 4345 GCGCGCTGGTCAGGCGATCGCGACTGTTTCGAGGACTTGGCGGCGAGCTGTTACTG 4404
Db 671 GGGCGCTGGTGAACGGATGTTGAAGCTGTTTACCGGATCTGGCGGGGAGATCGAATC 730
Qy 4405 AATCCGAAGTGAAGCTGGAACACGAGCGCAATCGCATTTAGCGGCTTCAGTTAGAG 4464
Db 731 AACGCCGGGTGGAAGAGCTGTTGGTGGCCGATTAACCGGTAAGCCAGGTCCGGCTCGG 790
Qy 4465 GCGCGACGACCTTCGATGCGCGCTGTGGCTTCCAAATGCGGAGTGTTGTCATFACCTAC 4524
Db 791 GATGGTCGATCTTTGACACCGACGCGCTAGCTCGAACGCTGAGTGGTAACACCTAT 850
Qy 4525 GACAACTGCTTCGACCATCTCGCTGGCAATGAAACGTCGACATGCTGCAAGCGTAAG 4584
Db 851 AAAAGCTGCTCGGACCATACCGTGGGAGAGAGCGGCGGACGCGCTGGAGCGCAG 910
Qy 4585 CGCATGACCACTCGCTGTTTGTACTCTATTTTGGCTTGAATCAGCCGATGAACAGCTC 4644
Db 911 AGCATGAGCACTCGCTGTTTGTCTTCTACTTTCGCTTGAACACGCTCATTTCCAGCTG 970
Qy 4645 GCGCACACACCTGTTTGGCGCGGCTTATCGTGAAGTGTGATGATGATTTTCAAC 4704
Db 971 GCGCACCATACCATCTGTTTGGTCCCGCTACCGGAGCTGATCGACGAGATCTTTACC 1030
Qy 4705 AGCAGCAGCTGGCAGAGATTTTCACTTTCATCTGACGCGCCCTCGCAGCGAGTCCG 4764
Db 1031 GCGAGCGCTGGCGAGATCTTCTGCTCTACTGCACTGCGCTGCGTGGACGATCC 1090
Qy 4765 TCGCTGGCAGCCCGCTGGCGAGCTTTTATGTTAGCGCGGCTGCGCATCTCGG 4824
Db 1091 TCGCTCGCGCTCCCGCTGCGCAGCTTCTACGTGCTGGCGCCGCTGCGCATCTTGGC 1150
Qy 4825 ACCCTGACATCGATGCGCAACAGAGGACCGCGCTTGGCGGATCGAATTTTGGCTTAT 4884
Db 1151 AACCGCGCTGGACTGGCGCAGAGGGCGGAGCTGCGCAGCAGCATCTTTGACTAC 1210
Qy 4885 CTGAGCAGCACTACATCGCGGATTAGTCAAGAAATAGTGACACACAGATCTTTACG 4944
Db 1211 CTGAAAGCGCTATATGCGCGGCTGCGTACGAGCTGGTGAACCGAGGATCTTTACC 1270
Qy 4945 CCGTTTGAATTTTCGCGACACGCTGCATGCCCATCAACGCTCGCGGTTTTCGCTGGAGCG 5004
Db 1271 CGGAGACTTACGACAGCTTGTGATCGGATCTTGGATCGCTTTTCATCGAGCGGCT 1330
Qy 5005 ATTTGAGCAAGCGCTGTTTCGCGCGCATTAACCGCGATGCGGATATCAGCAATCTC 5064
Db 1331 TCGTTGACCAAGGCTTGTTCGCGCAAAACGCGACAGCATTC-----AAACCTC 1381
Qy 5065 TATCTGGTGGTGGCTGACATCCAGGCGCGGCTGCGCGGCTGATCGGTTTCGCG 5124
Db 1382 TACCTGGTGGCGAGGTAATCAACCTGCGCGGCTTCTGCGGAGTGGGCTCGCC 1441
Qy 5125 AAGCCACCGCAGGCTGATCTGGAGGATCGCGCGCAATGAATCGACAGCTTTTACTTG 5184
Db 1442 GAAGCACCAGCAGCTGATGATGAGGATC--TGCATGAGCAACCGCGCTGCTTG 1498
Qy 5185 AGCAAGTAACGCAAAACCATGCG 5206
Db 1499 ACCACGCACTCGACCATGCG 1520

RESULT 14

US-08-096-623A-9
; Sequence 9, Application US/08096623A
; Patent No. 5684238
; GENERAL INFORMATION:
; APPLICANT: Ausich, Rodney L.
; APPLICANT: Brinkhaus, Friedhelm L.
; APPLICANT: Mukharji, Indrani
; APPLICANT: Proffitt, John H.

; APPLICANT: Yarger, James G.
; APPLICANT: Yen, Hui-Che B.
; TITLE OF INVENTION: Biosynthesis of Zeaxanthin and
; TITLE OF INVENTION: Glycosylated Zeaxanthin in Genetically Engineered Hosts
; NUMBER OF SEQUENCES: 104
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Welsh & Katz, Ltd.
; STREET: 120 S. Riverside Plaza, 22nd Floor
; CITY: Chicago
; STATE: IL
; COUNTRY: USA
; ZIP: 60606
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/096,623A
; FILING DATE: 22-JUL-1993
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/805,061
; FILING DATE: 09-DEC-1991
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/662,921
; FILING DATE: 28-FEB-1991
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/562,674
; FILING DATE: 03-AUG-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/525,551
; FILING DATE: 18-MAY-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/487,613
; FILING DATE: 02-MAR-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: Gamson, Edward P.
; REGISTRATION NUMBER: 29,381
; REFERENCE/DOCKET NUMBER: AMO-006.1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (312) 655-1501
; TELEFAX: (312) 655-1501
; INFORMATION FOR SEQ ID NO: 9:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1522 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: DNA (genomic)
; POSITION IN GENOME:
; MAP POSITION: -10 to 1512
; UNITS: bp
; US-08-096-623A-9

Query Match 10.1%; Score 708.4; DB 2; Length 1522;
Best Local Similarity 67.6%; Pred. No. 1.2e-172;
Matches 1029; Conservative 0; Mismatches 481; Indels 12; Gaps 2;
Qy 3685 ATGAAACGCACTTATGTGATTTGGCGAGGCTTTGGCGGCTTGGCGCTGGCGATTTCGCTG 3744
Db 11 ATGGAAAAAACCGTTGTGTTGGCGAGGCTTTGGTGGCTTGGCGATTTCGCTG 70
Qy 3745 CAGCGCGGCGCATACCAACACCTTACTCGAGCAGCGCAACACCGGCGGAGCGGCC 3804
Db 71 CAGCGCGCGGAGTCCCAACCGTACTCTGAGCAGCGGCAACAGCCGCGCTCGGCGCC 130
Qy 3805 TATGTGTTTTCAGGACAGTGGCTTTTACCTTCGATGCCGAGCCACCGGTGATCACCAGTCCC 3864
Db 131 TACGTCTGGCATGACAGGCTTTTACCTTTGACGCGCGGCGGCGGATCACCAGTCCCT 190
Qy 3865 AGCGCCATCGAAGAGTTGTTTACGCTCGCAGGAAATCGCTCAGCGATTACGTCAGCTG 3924

Db 191 ACCGCGCTTGGGGCTGTTTCAACCTGCGCGGCGCATGAGGATTAGTTCAGCTG 250
Qy 3925 ATGCGGTAAAGCCCTTCTATGCGCTGTGCTGGGAAGATGCAACAGCTTGATTACGAC 3984
Db 251 CTGCGGTAAAGCCCTTCTACCGACTCTGCTGGAGTCCGGAAGACCTTCGACTATGCT 310
Qy 3985 AATAATCAGCGCTGCTGGAGCAGCAGATCGCCAGCTTCAATCGCAAGATGTAGAAGC 4044
Db 311 AACGACAGCTTCGAGCTTGAGGGCGAGATTACCCAGTTCAACCCCGCGAGCTGAGGGC 370
Qy 4045 TATCGTCAATTTCTTGCTTATACGTGAAGTATTTAGAGAGGTATCTGAAACTCGGC 4104
Db 371 TACGGGCTTCTGGCTTACTCCAGCGGTATTTCCAGAGGATATTTGGCCTCGGC 430
Qy 4105 ACGGTGCGCTTCTGAGGTGCGTGAATGCTGCGCTGCGCGCAGTTGGAGAGTCTG 4164
Db 431 AGGTGCGCTTCTCTCTTTTCGCGACATGCTGCGCGCGCGCGCGAGCTGCTTAAGCTC 490
Qy 4165 CAAGCATGCGCAGCGTCTACAGCATGCTGGCGAATTTATTCAGGAGCATCTCGGT 4224
Db 491 CAGCGTGGCAGAGCGTCTACAGTCTGGTTTCGCGCTTTATTTAGGATGAGCATCTCGG 550
Qy 4225 CAGCGCTTCTTCCACTCATCTGCTGGCGGTAATCTTTTGCAAGTCAATCATC 4284
Db 551 CAGGCTTCTGTTCCACTCCCTGCTGTTAGGGGCAACCCCTTCACCACTCTGCTCATC 610
Qy 4285 TATACCTTAATCATGCGCTGGAGCGTGAATGGGCGTGTGGTTTCGCGCGCGGCACC 4344
Db 611 TACACCCTGATCCACGCCCTTGAGCGGAGTGGGGGTCTGTTTCCCTGAGGCGGCACC 670
Qy 4345 GCGCGCTGTCAGGCGATGCGCGACTGTTTCAGGACTTGGCGGCGAGCTGTACTG 4404
Db 671 GGGCGCTGTGGAACCGCATGTTGAAGCTGTTTACCGATCTGGCGGGAGATCGAACTC 730
Qy 4405 AATGCCAAGTAGCAGCTGGAACACAGCGGCAATCGCAATTAGCGGCTTCAGTTAGAG 4464
Db 731 AACGCCGGTTCGAGAGCTGGTGGCCGATTAACCGGTGAACGAGTCCGCTCGCG 790
Qy 4465 GCGGAGCAGCGCTGATGCGCGCTGTGGCTTCCAAATCCGACGCTGGTGCTACCTAC 4524
Db 791 GATGTCGGATCTTTGACACGCGCGCTAGCTCGAAAGCTGACGTGGTGAACACCTAT 850
Qy 4525 GACAACTGCTCCCAACCTCCGTCGCAATGAAGTGGCATCGCATCGCTGAAGCGTAAG 4584
Db 851 AAAAGCTGCTCGGCAATACACCGTGGGCGAAGCGGGCGCACCGCTGAGCGCAAG 910
Qy 4585 CGCATGAGCAACTCGCTGTTTGTACTCTATTTTGGCTGTAATCAGCGCATGAACAGCTC 4644
Db 911 AGCATGAGCAACTCGCTGTTTGTGCTCTACTTCGGCTGAACAGCCTCATTTCCAGCTG 970
Qy 4645 GCGCACCAACCGCTGTTTGGCCCGCTTATCGTGAGTTGATCGATGAGATTTTCAAC 4704
Db 971 GCGCACCAATACCATCTGTTTGGTCCCGCTACCGGAGCTGATCGACGAGATCTTTACC 1030
Qy 4705 AGCAGCAGCTGGCAGAGATTTTCTACTTACCTGCAACGCGCTCGCAGCAGGATCCG 4764
Db 1031 GGCAGCGCTGGCGGATGACTTCTGCTCTACCTGCACTCGCTCGCTGCGTACCGCTCC 1090
Qy 4765 TCGCTGGCAGCGCGCTGGCGAGCTTTATGTTGTAGCGCGCTGCGCATCTCGGC 4824
Db 1091 TCGCTCGGCTCTCCCGTGGCCAGCTTCTACTGTGGCCCGGCTCGCATCTTGGC 1150
Qy 4825 ACCGCTGACATCGACTGGCAACAGAAAGACCGCGCTTTCGCGATCGAATTTTTCGTTAT 4884
Db 1151 AACCGCGCTGGAGCTGGCGCAGAGGGGCGAAGCTGCGCAGCGCATCTTTGACTAC 1210
Qy 4885 CTGAGCAGCACTACATCGCGGATAGCTCAGCAATTAGTGACACACAGATCTTTACG 4944
Db 1211 CTTGAAGAGCGCTATATGCGCGGCTGCTGAGCAGCTGGTGAACCCAGCGATCTTTACC 1270
Qy 4945 CCGTTTGAATTTTCGCGACACGCTGCATGCCCATCACGCGCTCGGGTTTTTCGCTGAGCGC 5004
Db 1271 GCGCAGACTTCACGACAGCTTGGATCGGATCTTGGGATCGCTTTTCATCGAGCGGCT 1330

Qy 5005 ATTTTGAAGCAAGCGCTGTTTCCGCCGCATACCGCGATGCCGATATCAGCAATCTC 5064
Db 1331 TCGTTGACCAAGGCTTGTTCGCCGCAAAACGCGACAGCATTC-----AAACCTC 1381
Qy 5065 TATCTGTTGGTCCCGTACGATCAGGCGCGGCGTTCGCCGCTGATCGGTTTCGCGC 5124
Db 1382 TACTGTGGCCGAGGTACTACCTTGGCGGGGATCTCTGGCGTAGTGGGCTCGCC 1441
Qy 5125 AAGCCACCGCCAGGCTGATGCTGGAGATCGCGCGAATGAATCGACAGCCTTTACTTG 5184
Db 1442 GAAAGCAGCCAGCCTGATGATTAGGATC---TGCAATGAGCAACCGCGCTGCTTG 1498
Qy 5185 AGCAAGTAACGAAACCATGCC 5206
Db 1499 ACCACGCCAGTCGACCATGCC 1520

RESULT 15

US-08-660-645A-6
; Sequence 6, Application US/0860645A
; Patent No. 6087152
; GENERAL INFORMATION:
; APPLICANT: Hohmann, Hans-Peter
; APPLICANT: Pasamontes, Luis
; APPLICANT: Tessier, Michel
; APPLICANT: van Loon, Adolphus
; TITLE OF INVENTION: FERMENTATIVE CAROTENOID PRODUCTION
; NUMBER OF SEQUENCES: 47
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Hoffmann-La Roche Inc.
; STREET: 340 Kingsland Street
; CITY: Nutley
; STATE: NJ
; COUNTRY: USA
; ZIP: 07110
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/660,645A
; FILING DATE: 07-JUN-1996
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: EP 95108888.9
; FILING DATE: 09-JUN-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: Pokras, Bruce A.
; REGISTRATION NUMBER: 32,748
; REFERENCE/DOCKET NUMBER: RAN 6002/170
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (201) 235-5801
; TELEFAX: (201) 235-2363
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1482 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: double
; TOPOLOGY: linear
; MOLECULE TYPE: DNA (genomic)
; US-08-660-645A-6

Query Match 8.8%; Score 619.4; DB 3; Length 1482;
Best Local Similarity 63.7%; Pred. No. 1.2e-149;
Matches 941; Conservative 0; Mismatches 536; Indels 0; Gaps 0;

Qy 3685 ATGAACGCGACTTATGTGATGGCGCAGGCTTTGGCGGCTGGCGCTGGCGGATTCGCTG 3744
Db 1 ATGAGTTCCGCCATCGTCATCGGCGAGGTTTCGCGGGCTTGCCTTGCATCGCGCTG 60
Qy 3745 CAAGCGGGGCGCATACCAACCATCTTACTCGAGCAGCGCGACAAACCGGGCGGACGCGC 3804

Db 61 CAATCGCGCGCATCGGACACCATCGTCGAGGCCGCGAAGCCCGCGCGCGGCC 120
Qy 3805 TATGTGTTTGAAGCAGTGGCTTTACCTTCGATCGCGACCCACGGTGATCACCGATCCC 3864
Db 121 TATGTCTGGAACGATCAGGCGCAGCTTTCGATGAGGCCGACGCTGTGACCGACCCC 180
Qy 3865 AGCCCATCGAAGAGTTGTTTCACTCGTCGCGAGAAATCGCTCAGCGATTAGCTCGAGCTG 3924
Db 181 GACAGCCTGCGAGAGCTGTGGCCCTCAGCGGCCAACCGATGGAGCGTGACGTGACGCTG 240
Qy 3925 ATGCGGCTAAGCCCTTCTATCGCTCTGCTGCGAGATGCGGAAGATGCGAAGCTTGATACGAC 3984
Db 241 CTGCGGCTGCGCCCTTCTACCGCTGACATGCGGCGGACGCGCCGACGCTTCGAATACGCTG 300
Qy 3985 AATTAATCAGCGCGCTGTGGAGCAGCATCGCCACGTTCAATCGCAAGATGTAGAAGGC 4044
Db 301 AACGACGACGAGCTGATCGCGCAGGTGCGCTTCTTCAATCGCGCGATGTCGATGGC 360
Qy 4045 TATCGTCAATTTCTTGGCTATTCACGTGAAGTATTTAGAGAGGTTTATCTGAAGACTCGGC 4104
Db 361 TATCGCGCTTCCACGATTAACCGGAGAGGTCTATCGGAGGGGTATCTGAAGCTGGG 420
Qy 4105 ACGGTGCGCTTCTGCGAGTGGTGACATGCTGCGCTGCGCGCGAGTTGGGAGCTG 4164
Db 421 ACCACGCCCTTCTGAGAGCTGGGCCAGATGCTGAACCGCGCGCGCGCTGATCGGCTG 480
Qy 4165 CAAGCATGGCGACGCTCTACAGCATGCTGGCGAAATTTATCAGGACGATCATCTGGT 4224
Db 481 CAGGCATACGCTCGGTCCACAGCATGCTGGCGGCTTATCCAGGACCGCATCTGCGG 540
Qy 4225 CAGGCGTTTCTTCCACTATGCTGCTGGCGGTAATCCTTTGCAACGTCATCGATC 4284
Db 541 CAGGCTTCTGTTCCACACGCTGCTGGTGGCGGGAACCGTTTTCGACCAGCTCGATC 600
Qy 4285 TATACCTTAATTCATGCGCTGGAGCGTGAATGGGCGTGCTGGTTTCGCGCGCGGCACC 4344
Db 601 TATGCGCTGATCCATGCGCTGGAAACGGCGCGCGCGCTCTGGTTTCGCAAGGGCGGCACC 660
Qy 4345 GCGCGCTGTGTCAGGCGCATGGCGGACTGTTTCGAGGACTTGGGCGCGAGCTGTACTG 4404
Db 661 AACAGCTGTGCGCGCGCATGCTGCGCTGTTTCGAGGCTCTTGGCGCGCAGCTGCTGCTG 720
Qy 4405 AATGCCGAAGTAGCCAGCTGGAAACAGCGGCAATCGCAATTAGCGCGCTTCAGTTAGAG 4464
Db 721 AATGCCCGCGTACGCGGATCGACACCGAGGCGATCGCGCCACGGGCGTCACTGCTG 780
Qy 4465 GCGGACGACGCTTCGATGCGCGCGCTGTGGCTTCCAAATCGCGACGTGGTGCTACCTAC 4524
Db 781 GACGGCGGAGTTGCGCGGGAATACGCTGGCCAGCAACGCGGACGTGATGCAAGCTAT 840
Qy 4525 GACAAACTGCTTCGCCACCATCGCTGCGCAATGAACGTGCGCATCGCTGAAGCGTAA 4584
Db 841 CGGACCTGTGGGCCATACCGCGCGGGGCAACCAAGCGCGGATCTGAACCGGCGAG 900
Qy 4585 CGCATGAGCAACTCGCTGTTTGTACTCTATTTTGGCCTGAATCAGCGCGCATGAACAGCTC 4644
Db 901 CGCTGGTCTGATGCTGCTGTTCTGCTGCAATTCGCGCTGTCCAAGCGCCCGGAGAACCTG 960
Qy 4645 GCGCACCAACGCTGCTGTTTGGCGCGGTTATCGTGAGTTGATCGATGAGATTTTCAAC 4704
Db 961 GCCCACCAACGCGTCACTTCGCGCGCGGCTTACAAAGGGGCTGGTGAACGAGATCTTCAAC 1020
Qy 4705 AGCAGCGAGCTGGCAGACGATTTTCACTTTACTTTCATCGCACGCGCCCTGACGAGCGATCG 4764
Db 1021 GGGCCAGCTGCGCGGACGATTTCTCGATGTATCTGCAATTCGCGCCCTGCTGACCGATCCC 1080
Qy 4765 TCGCTGCACCGCGCGCTGCGGAGCTTTTATGTTTATGCTGTAGCGCGGTGCGCATCTCGGC 4824
Db 1081 AGCTGGCCCCGAGGGGATGTCACGCAATACGCTCTGCGGCCGCTTCGCAATCTGGGC 1140
Qy 4825 ACCGCTGACATCGATGGCAACAGGAAGGACCGCGCTTGGCGCATCGAATTTTGTCTTAT 4884

Search completed: November 24, 2005, 20:50:58
Job time : 1193 secs

Db 1141 CGCGCCGATGTGATTTGGGAAGCCGAGGCCCGGGCTATGCCGAGCGCATCTTCGAGGAA 1200
Qy 4885 CTGAGCAGCACTACATGCGCGGATTACGTGAGCAATTTAGTGACACAGAAATGTTTACG 4944
Db 1201 CTGAGAGCGCGGCCATCCCGACCTGGCAAGCACTTGACCCGTAGCCGCTCTTCAGC 1260
Qy 4945 CCGTTTGATTTTTCGCGACACGCTGATGCCATCACCGCTCGGGTTTTCGCTCGAGCCG 5004
Db 1261 CCGCCGATTTTCAGCACCGAACTGTGCGGCCCATCAAGCGGAGCGCTTCTCGGTGAGCGG 1320
Qy 5005 ATTTTGACGCAAGCGCTGTTCCGCGCGCATCAACCGGATGCCGATATCAGCAATCTC 5064
Db 1321 ATCTGACGCAATCCGCTGTTTCGCGCCGCAATAACCGCGACCGCGATCCCGAATTC 1380
Qy 5065 TATCTGCTGCTGCGGTGCGGTACGATCCAGGCGCGGGCGTGCCTGCGGTGATCGGTTGCGCC 5124
Db 1381 TACATGCTGGGGGCGGACGATCCGGGTGCGGGCATCCCGGTGCTGTTGGCAGCGCC 1440
Qy 5125 AAGGCCACCGCGAGGCTGATGCTGGAGGATCGGCGCG 5161
Db 1441 AAGGCCACCGCGAGGTCATGCTGTCGACCTGCGCG 1477

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OM nucleic - nucleic search, using sw model

Run on: November 24, 2005, 20:30:31 ; Search time 4690 Seconds
(without alignments)
12340.592 Million cell updates/sec

Title: US-10-808-979-18
Perfect score: 6999
Sequence: 1 gcagtggaatggaatgt.....gacgttttagacatgaata 6999

Scoring table: IDENTITY NUC
Gapop 10.0 , Gapext 1.0

Searched: 9793542 seqs, 4134689005 residues

Total number of hits satisfying chosen parameters: 19587084

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published Applications NA Main:
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2: /cgn2_6/ptodata/1/pubpna/US08_PUBCOMB.seq.*
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9: /cgn2_6/ptodata/1/pubpna/US10E_PUBCOMB.seq.*
10: /cgn2_6/ptodata/1/pubpna/US11_PUBCOMB.seq.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description
1	6999	100.0	6999	8	US-10-808-979-18	Sequence 18, Appl
2	4326.2	61.8	8675	8	US-10-804-677-18	Sequence 18, Appl
3	2619.6	37.4	8609	8	US-10-735-008-43	Sequence 43, Appl
4	2619.6	37.4	8609	8	US-10-735-019-28	Sequence 28, Appl
5	2619.6	37.4	8609	8	US-10-734-778-40	Sequence 40, Appl
6	2619.6	37.4	8609	8	US-10-734-936-37	Sequence 37, Appl
7	2619.6	37.4	8609	8	US-10-735-442-64	Sequence 64, Appl
8	2619.6	37.4	8609	8	US-10-886-906-54	Sequence 54, Appl
9	2619.6	37.4	8609	9	US-10-987-524-49	Sequence 49, Appl
10	2533.4	36.2	9127	8	US-10-810-733-20	Sequence 20, Appl
11	2138.6	30.6	8814	8	US-10-808-807-18	Sequence 18, Appl
12	2138.6	30.6	8814	9	US-10-997-844-41	Sequence 41, Appl
13	2138.6	30.6	8814	10	US-11-015-433-12	Sequence 12, Appl
14	2135.2	30.5	12753	7	US-10-041-018-19	Sequence 19, Appl
15	1661.4	23.7	5632	9	US-10-997-844-6	Sequence 6, Appl
16	1661.4	23.7	5632	10	US-11-015-433-15	Sequence 15, Appl
17	1618.8	23.1	7494	8	US-10-474-536-45	Sequence 45, Appl
18	1618.8	23.1	8547	8	US-10-474-536-46	Sequence 46, Appl
19	1593.2	22.6	3611	9	US-10-997-844-36	Sequence 36, Appl
20	1482	21.2	1482	8	US-10-808-979-7	Sequence 7, Appl
21	1278	18.3	1278	8	US-10-808-979-3	Sequence 3, Appl
22	1167	16.7	1167	8	US-10-808-979-5	Sequence 5, Appl
23	1085.2	15.5	1482	8	US-10-804-677-7	Sequence 7, Appl

C	24	1035.4	14.8	8625	3	US-09-920-923-1	Sequence 1, Appl
C	25	1035.4	14.8	8625	7	US-10-695-980-1	Sequence 1, Appl
C	26	1035.4	14.8	11233	3	US-09-920-923-27	Sequence 27, Appl
C	27	1035.4	14.8	11233	7	US-10-695-980-27	Sequence 27, Appl
	28	930	13.3	930	8	US-10-808-979-9	Sequence 9, Appl
	29	906	12.9	906	8	US-10-808-979-1	Sequence 1, Appl
	30	887	12.7	1482	8	US-10-810-733-9	Sequence 9, Appl
	31	875.4	12.5	1278	8	US-10-804-677-3	Sequence 3, Appl
	32	861.4	12.3	1479	9	US-10-808-807-7	Sequence 7, Appl
	33	810.2	11.6	1479	9	US-10-987-524-17	Sequence 17, Appl
	34	808.6	11.6	1479	3	US-09-941-947A-31	Sequence 31, Appl
	35	808.6	11.6	1479	6	US-10-218-118-7	Sequence 7, Appl
	36	808.6	11.6	1479	7	US-10-363-567-31	Sequence 31, Appl
	37	808.6	11.6	1479	7	US-10-466-656-7	Sequence 7, Appl
	38	808.6	11.6	1479	7	US-10-735-008-7	Sequence 7, Appl
	39	808.6	11.6	1479	8	US-10-735-019-7	Sequence 7, Appl
	40	808.6	11.6	1479	8	US-10-734-778-7	Sequence 7, Appl
	41	808.6	11.6	1479	8	US-10-735-442-7	Sequence 7, Appl
	42	808.6	11.6	1479	8	US-10-848-307-7	Sequence 7, Appl
	43	808.6	11.6	1479	8	US-10-886-906-7	Sequence 7, Appl
	44	808.6	11.6	1479	9	US-10-987-524-7	Sequence 7, Appl
	45	805.4	11.5	1479	9	US-10-987-524-19	Sequence 19, Appl

ALIGNMENTS

RESULT 1
US-10-808-979-18
; Sequence 18, Application US/10808979
; Publication No. US20040268439A1
; GENERAL INFORMATION:
; APPLICANT: E.I. duPont de Nemours and Company, Inc.
; APPLICANT: Cheng, Qiong
; APPLICANT: Tao, Luan
; TITLE OF INVENTION: GENES ENCODING CAROTENOID COMPOUNDS
; FILE REFERENCE: CL2360 US NA
; CURRENT APPLICATION NUMBER: US/10/808,979
; CURRENT FILING DATE: 2004-03-25
; PRIOR APPLICATION NUMBER: US 60/471,904
; PRIOR FILING DATE: 2003-05-20
; PRIOR APPLICATION NUMBER: US 60/527,083
; PRIOR FILING DATE: 2003-12-03
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 18
; LENGTH: 6999
; TYPE: DNA
; ORGANISM: Enterobacteriaceae strain DC260
US-10-808-979-18

instant

Query Match	100.0%	Score	6999	DB	8	Length	6999
Best Local Similarity	100.0%	Pred. No.	0				
Matches	6999	Conservative	0	Mismatches	0	Indels	0
Gaps	0						
Qy	1	GCAGTGCATGGAATGTTGGTGCAGCTTTTGGTCTAACTGCGGCATCAGCGGCTGAA	60				
Db	1	GCAGTGCATGGAATGTTGGTGCAGCTTTTGGTCTAACTGCGGCATCAGCGGCTGAA	60				
Qy	61	TAATCAGCAGCGGAGTTTGGTATTCGTCATTTTATTTGTCATTTGTCATTTTATTTTAC	120				
Db	61	TAATCAGCAGCGGAGTTTGGTATTCGTCATTTTATTTGTCATTTTATTTTATTTTAC	120				
Qy	121	CACGAGCTAACCGAGTTATTTATGTTACCGCGTGTGCTACTTATTTGCTTAATGA	180				
Db	121	CACGAGCTAACCGAGTTATTTATGTTACCGCGTGTGCTACTTATTTGCTTAATGA	180				
Qy	181	TCAGCATAGCATTTATTAACAATTTTACCTGGTGCATGAATACCAACCTACAAAGT	240				
Db	181	TCAGCATAGCATTTATTAACAATTTTACCTGGTGCATGAATACCAACCTACAAAGT	240				
Qy	241	CAAGTCCCTCGCTGGCGAATTCACCTTACGAGTCTACGGTTAATCAAAAGCAAAAA	300				
Db	241	CAAGTCCCTCGCTGGCGAATTCACCTTACGAGTCTACGGTTAATCAAAAGCAAAAA	300				

241	CAA	GTCCCTCGCTGGCGAACTCACTACCTTACGCACTGTACGGTTAATCAAAAGCATATAAAA	300
301	TTT	CACAAACCATATGGATAGCCATTATGACACACCCATGTGACACACAGACATCAGACA	360
301	TTT	CACCAACCATATGGATAGCCATTATGACACACCCATGTGACACACAGACATCAGACA	360
361	AGG	AACTCTTTCAGCTGCGAGCAAAATTTTACAGGCGCATCTTGAACATTTACTGCTGCG	420
361	AGG	AACTCTTTCAGCTGCGAGCAAAATTTTACAGGCGCATCTTGAACATTTACTGCTGCG	420
421	GG	ACAAAGCCATCGCGTGCCTGCGCGATGCGGTGCGGAAACGCTGCGCGCAGGCGCAA	480
421	GG	ACAAAGCCATCGCGTGCCTGCGCGATGCGGTGCGGAAACGCTGCGCGCAGGCGCAA	480
481	CGT	ATTTCGTCCTTTATTTACTGCTGCTGGCAGCGCGGATATGGGTTTGCAGCTGACGCAA	540
481	CGT	ATTTCGTCCTTTATTTACTGCTGCTGGCAGCGCGGATATGGGTTTGCAGCTGACGCAA	540
541	AAT	GGGCTTCTCGATCTCGCTGTGAGTGGAAATGGTGCACGCGGCATCGCTGATCTCTG	600
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781	TC	CGCTCCGCTGGCTGCAAGGGCTTAGTGCAAAGGCGAATTCAGAGATCTGCACGACGCG	840
841	AC	GACAGCGCAGCCCGGAAGCGATCGCCATGACCAACGAACTGAAAAACACGCTGCTG	900
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961	AG	ACTTAGCTTCTTCGCCACAGATTTTGGGCCAGGCGTTTCAACTGCTGACGACCTCGCC	1020
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1021	GAC	GGTTGCAAAACACACCGGTAAAGATGTGCACAGGATCAGGGCAAAATCCACGCTGGTA	1080
1021	GAC	GGTTGCAAAACACACCGGTAAAGATGTGCACAGGATCAGGGCAAAATCCACGCTGGTA	1080
1081	CAG	ATGCTCGGTGTGACGGCGCGGAACGTCCCTGCGCGATCACCTGCGCAGCGCAGAT	1140
1081	CAG	ATGCTCGGTGTGACGGCGCGGAACGTCCCTGCGCGATCACCTGCGCAGCGCAGAT	1140
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1141	GC	ACCTTGTGCTCGCGCTGCCATTCGCGGATGCGCCACTGCCCAATATATATGCAAGCGCTG	1200
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1201	TTT	TAATCAACAGCTTAGCGATTTCAAATGAGCGGGCTCAGCGGTGGGCCACTTTGCGG	1260
1261	TG	ATCGCGCGCGCTCTACAGGCCATTTCAACGCGTTTGCAGGCGGTAGCAACAACTGTC	1320
1261	TG	ATCGCGCGCGCTCTACAGGCCATTTCAACGCGTTTGCAGGCGGTAGCAACAACTGTC	1320
1321	TGG	CGCGCGGCATTCGATACATTCATTCAGCAAGCGGATGCGCGCATCTTTGCTTAGCG	1380
1321	TGG	CGCGCGGCATTCGATACATTCATTCAGCAAGCGGATGCGCGCATCTTTGCTTAGCG	1380

Qy	1381	ACGAA	CGCAT	TCGAT	TTT	TGTTG	TGCGT	CGG	CGAA	CAG	AGCA	GCAT	CTC	GC	CGT	T	CGT	GC	CGC	1441
Db	1381	ACGAA	CGCAT	TCGAT	TTT	TGTTG	TGCGT	CGG	CGAA	CAG	AGCA	GCAT	CTC	GC	CGT	T	CGT	GC	CGC	1440
Qy	1441	CGT	GT	TG	CA	T	CG	CT	CG	CG	CG	CG	CT	GT	CG	CT	GT	TG	CG	1500
Db	1441	CGT	GT	TG	CA	T	CG	CT	CG	CG	CG	CG	CT	GT	CG	CT	GT	TG	CG	1500
Qy	1501	TCG	CGT	CT	CG	A	TCG	AT	AT	CT	GT	CG	CG	AA	CT	GC	CT	CG	GT	1560
Db	1501	TCG	CGT	CT	CG	A	TCG	AT	AT	CT	GT	CG	CG	AA	CT	GC	CT	CG	GT	1560
Qy	1561	TCG	AT	CG	GT	GA	T	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	1620
Db	1561	TCG	AT	CG	GT	GA	T	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	1620
Qy	1621	AT	TC	GC	CG	TT	TG	TT	CG	GT	CG	CG	CT	TG	CG	CG	CT	CA	T	1680
Db	1621	AT	TC	GC	CG	TT	TG	TT	CG	GT	CG	CG	CT	TG	CG	CG	CT	CA	T	1680
Qy	1681	TTG	CG	GT	GA	T	CG	CG	TT	TG	CA	CAG	AT	GAC	AA	AG	CG	CT	TT	1740
Db	1681	TTG	CG	GT	GA	T	CG	CG	TT	TG	CA	CAG	AT	GAC	AA	AG	CG	CT	TT	1740
Qy	1741	GC	AG	CA	T	CT	AT	GA	T	CG	CA	T	CG	CG	CG	CG	CG	CG	CG	1800
Db	1741	GC	AG	CA	T	CT	AT	GA	T	CG	CA	T	CG	CG	CG	CG	CG	CG	CG	1800
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Db	1801	GGG	CG	TT	TA	AT	TG	AA	CG	AG	CG	CG	CG	GA	TT	AC	AT	CA	GT	1860
Qy	1861	TC	AG	CA	GA	T	GG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	1920
Db	1861	TC	AG	CA	GA	T	GG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	1920
Qy	1921	CG	GT	GG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	1980
Db	1921	CG	GT	GG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	1980
Qy	1981	TG	CG	T	AG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	2040
Db	1981	TG	CG	T	AG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	2040
Qy	2041	TT	CT	CG	CA	T	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	2100
Db	2041	TT	CT	CG	CA	T	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	2100
Qy	2101	GGG	GA	T	AA	AG	CG	CG	AA	CAG	AG	CG	AT	CAG	CT	GG	AG	CT	CG	2160
Db	2101	GGG	GA	T	AA	AG	CG	CG	AA	CAG	AG	CG	AT	CAG	CT	GG	AG	CT	CG	2160
Qy	2161	AT	TT	CG	TC	GA	T	AG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	2220
Db	2161	AT	TT	CG	TC	GA	T	AG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	2220
Qy	2221	TAA	A	CAG	CG	CG	CT	GG	AA	GA	CT	GA	AT	GC	CG	CG	AT	GC	CG	2280
Db	2221	TAA	A	CAG	CG	CG	CT	GG	AA	GA	CT	GA	AT	GC	CG	CG	AT	GC	CG	2280
Qy	2281	TTG	AT	CAG	CG	CG	GT	TG	CG	CG	CG	CG	AT	T	GAG	T	GG	CA	T	2340
Db	2281	TTG	AT	CAG	CG	CG	GT	TG	CG	CG	CG	CG	AT	T	GAG	T	GG	CA	T	2340
Qy	2341	GCT	TT	TAG	CG	GT	TT	CA	T	CA	ACT	TG	AG	TG	GC	AT	T	GAG	CG	2400
Db	2341	GCT	TT	TAG	CG	GT	TT	CA	T	CA	ACT	TG	AG	TG	GC	AT	T	GAG	CG	2400
Qy	2401	AC	GC	GT	ACT	AG	CA	T	GT	CAG	CG	AT	TA	CG	CG	CA	AG	CT	GT	2460
Db	2401	AC	GC	GT	ACT	AG	CA	T	GT	CAG	CG	AT	TA	CG	CG	CA	AG	CT	GT	2460

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Db	2461	CGCCGACATCGTCAGCAGGGCGCTGTCAGCAGCAAGTCGTGTCGGGAGGCGA	2520	Qy	3601	CGGATTTCTGTGCGGCAAGCCGCGTCCCATCGGTGAAGCGCTGCGGCGCTTCTGAA	3660
Qy	2521	GATGCGCAGCAATACGATGTGATTTTGTGCGTCTGCACTGCGGAATGCGTTCATTC	2580	Db	3601	CGGATTTCTGTGCGGCAAGCCGCGTCCCATCGGTGAAGCGCTGCGGCGCTTCTGAA	3660
Db	2521	GATGCGCAGCAATACGATGTGATTTTGTGCGTCTGCACTGCGGAATGCGTTCATTC	2580	Qy	3661	TTCTGTGCAACACGAGGAAGAAAAATGAAACGCACTTATGTGATTTGGCGCAGGCTTTGGC	3720
Qy	2581	GCTGCGTCTGCGTCAATTTGCAAGCCCAACTGAAATGCTTGTGTCGGAGAGCGATGCGCA	2640	Db	3661	TTCTGTGCAACACGAGGAAGAAAAATGAAACGCACTTATGTGATTTGGCGCAGGCTTTGGC	3720
Db	2581	GCTGCGTCTGCGTCAATTTGCAAGCCCAACTGAAATGCTTGTGTCGGAGAGCGATGCGCA	2640	Qy	3721	GGCCTGGCGCTGGCGATTCGCTGCAAGCGCGGGGCATACCAACCACTTACTCGAGCAG	3780
Qy	2641	TCCGCGCAGCAATCATACTGCTGTTTATCATCAGCGATCTCAGCGCGCAACAACTTCG	2700	Db	3721	GGCCTGGCGCTGGCGATTCGCTGCAAGCGCGGGGCATACCAACCACTTACTCGAGCAG	3780
Db	2641	TCCGCGCAGCAATCATACTGCTGTTTATCATCAGCGATCTCAGCGCGCAACAACTTCG	2700	Qy	3781	CGCCACAAAACCGCGCGAGCGCGCTATGTGTTTGGAGACAGTGGCTTTACCTTCGATGCC	3840
Qy	2701	CTGGCTGCAACCGCTGATTTACCGTGCCTTGTGTCAGGTTATCAGGTGCGCTTTTCCCTGCCCT	2760	Db	3781	CGCCACAAAACCGCGCGAGCGCGCTATGTGTTTGGAGACAGTGGCTTTACCTTCGATGCC	3840
Db	2701	CTGGCTGCAACCGCTGATTTACCGTGCCTTGTGTCAGGTTATCAGGTGCGCTTTTCCCTGCCCT	2760	Qy	3841	GGACCCACGGTGATCACCGATCCCGAGCGCCATCGAAGAGTTGTTTCAACCTGGCAGGAAAA	3900
Qy	2761	CGCGCGCAATCTGGACGGGGATTTATTTTCCATCGCATCAGCGGATTTTGGCCGCGCATCT	2820	Db	3841	GGACCCACGGTGATCACCGATCCCGAGCGCCATCGAAGAGTTGTTTCAACCTGGCAGGAAAA	3900
Db	2761	CGCGCGCAATCTGGACGGGGATTTATTTTCCATCGCATCAGCGGATTTTGGCCGCGCATCT	2820	Qy	3901	TCGCTCAGCGATTAAGTCGAGCTGATGCCGTAAACGCCCTTCTATCGCTGTGTCTGGGAA	3960
Qy	2821	TTACGCGCGGATGGGTGACGATCTGTGGAACAAACACAGCGGTACAAAGGTAAACCCAC	2880	Db	3901	TCGCTCAGCGATTAAGTCGAGCTGATGCCGTAAACGCCCTTCTATCGCTGTGTCTGGGAA	3960
Db	2821	TTACGCGCGGATGGGTGACGATCTGTGGAACAAACACAGCGGTACAAAGGTAAACCCAC	2880	Qy	3961	GATGCGCAACAGCTTGATACGCAATAATCAGCGCGTCTGGAGCAGCAGATGCCACG	4020
Qy	2881	GCAGGTGACGCTGGCGGATGGCGGTAACTTGTGCGCAAGTGGTATGATGTCGCGG	2940	Db	3961	GATGCGCAACAGCTTGATACGCAATAATCAGCGCGTCTGGAGCAGCAGATGCCACG	4020
Db	2881	GCAGGTGACGCTGGCGGATGGCGGTAACTTGTGCGCAAGTGGTATGATGTCGCGG	2940	Qy	4021	TTCAATCCGCAAGATGTAGAGGCTATCGTCAATTTTCTTGCTTATTCACGTGAAGTATTT	4080
Qy	2941	CCTGCGCGCAGCGCCACATCTGCAAGCTGGGTATCAGGTGTTTCTTGACAAAGAGTGCA	3000	Db	4021	TTCAATCCGCAAGATGTAGAGGCTATCGTCAATTTTCTTGCTTATTCACGTGAAGTATTT	4080
Db	2941	CCTGCGCGCAGCGCCACATCTGCAAGCTGGGTATCAGGTGTTTCTTGACAAAGAGTGCA	3000	Qy	4081	AGAGAGGTTTATCTGAAACTCTGGCACCGTTCGAGGTGCGTGAACATGCTGCGC	4140
Qy	3001	GCTGCGCAGCGCAGCGCTGCAAGCCGATCTGATGATGCCACCGTCTGATCAGCA	3060	Db	4081	AGAGAGGTTTATCTGAAACTCTGGCACCGTTCGAGGTGCGTGAACATGCTGCGC	4140
Db	3001	GCTGCGCAGCGCAGCGCTGCAAGCCGATCTGATGATGCCACCGTCTGATCAGCA	3060	Qy	4141	GTCCGCGCGCATGTTGGACGCTCTGCAAGCATGGCGCAGCTCTACAGCATGGTGGCGAAA	4200
Qy	3061	AGCGGTTATCGTTTGTCTACAGCTGCGCTCAGCGCCATCGGCTATTGATGTAAGA	3120	Db	4141	GTCCGCGCGCATGTTGGACGCTCTGCAAGCATGGCGCAGCTCTACAGCATGGTGGCGAAA	4200
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Qy	3121	TACCCATTACGTTAAACAGCCCGCTGCGGAGAAACACCGTCTGATGACATCGCGA	3180	Db	4201	TTTATTCAGGACGATCATCTGCGTCAGCGTTTTCTTCCACTCATTTGCTGGCGGT	4260
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Qy	3241	ACCGATTACCTGAGCGGCAATCATCGATCTGCGCAACAGCAGCGCGCGCAAGCGTG	3300	Db	4321	GTGTGTTTTCCGCGCGGCGCACCGCGCTGGTGCAGGCGATGGCGCGCTGTCGAG	4380
Db	3241	ACCGATTACCTGAGCGGCAATCATCGATCTGCGCAACAGCAGCGCGCGCAAGCGTG	3300	Qy	4381	GACTTGGCGCGGAGCTGTTACTGAAATGCGCAAGTGAAGCGCTGGGAAACAGCGGCAAT	4440
Qy	3301	CAGCGGCTGCGCGCGCGGCTGTTTATGCAACACAGCGGTTACTCTTGGCGCTCGCGCT	3360	Db	4381	GACTTGGCGCGGAGCTGTTACTGAAATGCGCAAGTGAAGCGCTGGGAAACAGCGGCAAT	4440
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Qy	3361	GGCGCTAGCGGATTTGGTAGCAGCGCTGTTTATGCCACACCGGTTACTCTTGGCGCT	3420	Db	4441	CGCATTAAGCGCGTTTACTAGTGGGCGGACGAGCTTCGATGCGCGCTGTGCGCTCC	4500
Db	3361	GGCGCTAGCGGATTTGGTAGCAGCGCTGTTTATGCCACACCGGTTACTCTTGGCGCT	3420	Qy	4501	AATGCCACAGCTGGTGCAATCTACGACAAACTGCTTCGCCACCATCGCTGGCAATGAAA	4560
Qy	3421	TATCGAACGCTTTTCCCGTACGAGTGGCGGCAACAGCGATTTTCCGTCTGCTAAACCG	3480	Db	4501	AATGCCACAGCTGGTGCAATCTACGACAAACTGCTTCGCCACCATCGCTGGCAATGAAA	4560
Db	3421	TATCGAACGCTTTTCCCGTACGAGTGGCGGCAACAGCGATTTTCCGTCTGCTAAACCG	3480	Qy	4561	CGTGCAGATCGCTGAAGCGGTAAAGCGATGAGCAACTCGCTGTTTGTACTCTATTTTGGC	4620
Qy	3481	CATGCTGTTTTTGGCGGTAAGCGCAGCGCTGGCGGCTGATGCAACGTTTTTATCCG	3540	Db	4561	CGTGCAGATCGCTGAAGCGGTAAAGCGATGAGCAACTCGCTGTTTGTACTCTATTTTGGC	4620
Db	3481	CATGCTGTTTTTGGCGGTAAGCGCAGCGCTGGCGGCTGATGCAACGTTTTTATCCG	3540	Qy	4621	CTGAATCAGCGCGCATGAACAGCTCGCGCACCAACCGCTCTGTTTGGCGCGCTTATCGT	4680
Qy	3541	GCTCGATGCGGGTAAATTAGCCGCTTTTACCGCGGCAACTGGCGCTGCGCGATAAAAC	3600				

Db	4621	CTGAACTCAGCGCGCATGAACAGCTCGCGCACACACCGTCTGTTTGGCCCGCGTTATCGT	4680
Qy	4681	GAGTTGATCGATGAGATTTTCAACAGCAGCCAGCTGGCAGACGATTTTTCACTTTACCTG	4740
Db	4681	GAGTTGATCGATGAGATTTTCAACAGCAGCCAGCTGGCAGACGATTTTTCACTTTACCTG	4740
Qy	4741	CACGCGCTTCGACGACGAGTCCGTCCGTGGCACCGCCCGCTGGCAGCTTTTATGTG	4800
Db	4741	CACGCGCTTCGACGACGAGTCCGTCCGTGGCACCGCCCGCTGGCAGCTTTTATGTG	4800
Qy	4801	TTAGCGCGGTTCGCGCATCTCGGCACCGCTGACATCGACTGGCAACAGGAAGACCGCGC	4860
Db	4801	TTAGCGCGGTTCGCGCATCTCGGCACCGCTGACATCGACTGGCAACAGGAAGACCGCGC	4860
Qy	4861	TTGCGCGATCGAAATTTTGTCTTATCTGGAGCAGCACTACATGCGCGGATTAACGTCAGCAA	4920
Db	4861	TTGCGCGATCGAAATTTTGTCTTATCTGGAGCAGCACTACATGCGCGGATTAACGTCAGCAA	4920
Qy	4921	TTAGTGACACAGAAATGTTTACGCCGTTTGAATTTTCGCGACACGCTGCATGCCCATCAC	4980
Db	4921	TTAGTGACACAGAAATGTTTACGCCGTTTGAATTTTCGCGACACGCTGCATGCCCATCAC	4980
Qy	4981	GGCTCGCGCTTTTCGCTGGAGCGGATTTTGACGCAAAAGCGCTGGTTCCGCGCCGATAAC	5040
Db	4981	GGCTCGCGCTTTTCGCTGGAGCGGATTTTGACGCAAAAGCGCTGGTTCCGCGCCGATAAC	5040
Qy	5041	CGCGATGCCGATATCAGCAATCTCTATCTGGTGGGTGCGGTACGCATCCAGGCGCGGC	5100
Db	5041	CGCGATGCCGATATCAGCAATCTCTATCTGGTGGGTGCGGTACGCATCCAGGCGCGGC	5100
Qy	5101	GTGCCCGGTGATCGGTTTCGGCCAAAGCCACCGCCAGCGCTGATGCTGGAGGATCGGCC	5160
Db	5101	GTGCCCGGTGATCGGTTTCGGCCAAAGCCACCGCCAGCGCTGATGCTGGAGGATCGGCC	5160
Qy	5161	GAATGAATCGACAGCTTTTACTTCAGCAAGTAAACGCAAAACCATGGCGTGGCTCGAAGA	5220
Db	5161	GAATGAATCGACAGCTTTTACTTCAGCAAGTAAACGCAAAACCATGGCGTGGCTCGAAGA	5220
Qy	5221	GTTTTCGCCACCGCGCCAAAGCTGTTGATGCAACCGACGCGCGCGCAGCAGCTGATGCTGT	5280
Db	5221	GTTTTCGCCACCGCGCCAAAGCTGTTGATGCAACCGACGCGCGCGCAGCAGCTGATGCTGT	5280
Qy	5281	ATGGTGTGTGCTCATCTGCATGATGATGATGGCAAAACCGTGGCGAAGCGCGCA	5340
Db	5281	ATGGTGTGTGCTCATCTGCATGATGATGATGGCAAAACCGTGGCGAAGCGCGCA	5340
Qy	5341	CGCAGCATGCGCTCGAAGACGCGCAGGCAAGTATGACAGCATCTGCATAATGAAACCGGCC	5400
Db	5341	CGCAGCATGCGCTCGAAGACGCGCAGGCAAGTATGACAGCATCTGCATAATGAAACCGGCC	5400
Qy	5401	CGCGCTACAGCGCGCGCACATGGATGAACCGCGCTTTAGGCGGTTTCAGGAAGTGCGGA	5460
Db	5401	CGCGCTACAGCGCGCGCACATGGATGAACCGCGCTTTAGGCGGTTTCAGGAAGTGCGGA	5460
Qy	5461	TCATTCACAGCTGCGCGCAACAACTGGCGTTTGATCATCTGGAAGGCTTCGCTATGATG	5520
Db	5461	TCATTCACAGCTGCGCGCAACAACTGGCGTTTGATCATCTGGAAGGCTTCGCTATGATG	5520
Qy	5521	CACGCAAGCAATTTACGCGAGCTTCGATGACAGCTCGCTTACTGCTATCAGCTCGCGG	5580
Db	5521	CACGCAAGCAATTTACGCGAGCTTCGATGACAGCTCGCTTACTGCTATCAGCTCGCGG	5580
Qy	5581	CGTGGTTCGTTGATGATGGCGCGTAAATGGGCGTGGCGACGAAAGCGGTGCTCGATC	5640
Db	5581	CGTGGTTCGTTGATGATGGCGCGTAAATGGGCGTGGCGACGAAAGCGGTGCTCGATC	5640
Qy	5641	ACGCTCGGATTTAGGACTCGGGTTCAGCTCACTAAATTTGCGCGCGACATTTGAGAG	5700
Db	5641	ACGCTCGGATTTAGGACTCGGGTTCAGCTCACTAAATTTGCGCGCGACATTTGAGAG	5700
Qy	5701	ATGCCGAAATTCGCTGCTATCTGCGCAATCTGCTCGATCAGCGGGATTAACGCG	5760
Db	5701	ATGCCGAAATTCGCTGCTATCTGCGCAATCTGCTCGATCAGCGGGATTAACGCG	5760
Qy	5761	CCGATACGCTGACTCAGCCGCAACATCTGTCAGCGCTCGCTCACCTGCGCAGCGGTTTAG	5820
Db	5761	CCGATACGCTGACTCAGCCGCAACATCTGTCAGCGCTCGCTCACCTGCGCAGCGGTTTAG	5820
Qy	5821	TGCGGAGCGGAAACCTTATATCACTCGCGCGCATCCGGTTTACCGGGTTTACCGCTGC	5880
Db	5821	TGCGGAGCGGAAACCTTATATCACTCGCGCGCATCCGGTTTACCGGGTTTACCGCTGC	5880
Qy	5881	GCTTCGCGTGGCCATCGCTACGCTTCGCGGCGTTTATCGCGAAATTTGGCGTCAAAAGTTC	5940
Db	5881	GCTTCGCGTGGCCATCGCTACGCTTCGCGGCGTTTATCGCGAAATTTGGCGTCAAAAGTTC	5940
Qy	5941	AGCACCGCGTGTGACGCTGGGATTCACGCGAGCGCACCACTAAGGTGAAAACTGG	6000
Db	5941	AGCACCGCGTGTGACGCTGGGATTCACGCGAGCGCACCACTAAGGTGAAAACTGG	6000
Qy	6001	CGCTGCTGGTGAAGGGGAGGTTTGGCGATCACTTCGCGTGTGTCTCGCTCTGAAACCGC	6060
Db	6001	CGCTGCTGGTGAAGGGGAGGTTTGGCGATCACTTCGCGTGTGTCTCGCTCTGAAACCGC	6060
Qy	6061	GTCGCGCTGCTCTGTGTGACGCTCTCGTTGATTTTACGTCGTCGTCGTCGCGCAGCGT	6120
Db	6061	GTCGCGCTGCTCTGTGTGACGCTCTCGTTGATTTTACGTCGTCGTCGTCGCGCAGCGT	6120
Qy	6121	GGCTTGACGCTTATTCAGCGGTGGCGGTAGAGAAACCAACGACACGACGAGCTTCAACG	6180
Db	6121	GGCTTGACGCTTATTCAGCGGTGGCGGTAGAGAAACCAACGACACGACGAGCTTCAACG	6180
Qy	6181	CCGCGCACCGCATGATGATGCGTCGCGCATGTATTAAGCGCTTAAGATAGCTTTTGGC	6240
Db	6181	CCGCGCACCGCATGATGATGCGTCGCGCATGTATTAAGCGCTTAAGATAGCTTTTGGC	6240
Qy	6241	CGGGATATACGGAAACCGCGAGCTTGATGCAACAGGCCATCTGTGCAACCATGAAGTAGAG	6300
Db	6241	CGGGATATACGGAAACCGCGAGCTTGATGCAACAGGCCATCTGTGCAACCATGAAGTAGAG	6300
Qy	6301	CGCGCGTACGTCGTCATCTCCGCGACCAATCCACTGCGAGCGGCACATGCTTGCACACC	6360
Db	6301	CGCGCGTACGTCGTCATCTCCGCGACCAATCCACTGCGAGCGGCACATGCTTGCACACC	6360
Qy	6361	GACATAATCAGCACCAATCCGCAATACCGCAAAACACACCGCATAAAGATCTGTAGCTC	6420
Db	6361	GACATAATCAGCACCAATCCGCAATACCGCAAAACACACCGCATAAAGATCTGTAGCTC	6420
Qy	6421	AAACTTACCCTGTGCGGTTTATGTCGACAGATGCGACGCGCCCATCCCAACCGTGCAT	6480
Db	6421	AAACTTACCCTGTGCGGTTTATGTCGACAGATGCGACGCGCCCATCCCAACCGTGCAT	6480
Qy	6481	GATGTTATTTATGCGACAGCGCTACGATTTCCATCACCACCGCTTCCACCAAGAT	6540
Db	6481	GATGTTATTTATGCGACAGCGCTACGATTTCCATCACCACCGCTTCCACCAAGAT	6540
Qy	6541	AAGCACGTTCCATAACAGAGATTTGTCGTCATTTGTGGAAGGGAAGTACTAAAGG	6600
Db	6541	AAGCACGTTCCATAACAGAGATTTGTCGTCATTTGTGGAAGGGAAGTACTAAAGG	6600
Qy	6601	TGGAACGCGGATGATGATGGCGCAAGGTTTACCATGTTTGAAGTTTAAAGTCCATPAA	6660
Db	6601	TGGAACGCGGATGATGATGGCGCAAGGTTTACCATGTTTGAAGTTTAAAGTCCATPAA	6660
Qy	6661	CACGTTATGAACGCTGCAATTCAGAGAAAGCGAGATTTTCAACATCTTCCACACCTTATC	6720
Db	6661	CACGTTATGAACGCTGCAATTCAGAGAAAGCGAGATTTTCAACATCTTCCACACCTTATC	6720
Qy	6721	AATACAGTGTTAACATACATGGGGAATTTATGCTTCTACAGCGGTAAAGCAAAAAA	6780
Db	6721	AATACAGTGTTAACATACATGGGGAATTTATGCTTCTACAGCGGTAAAGCAAAAAA	6780
Qy	6781	CTGTCACTGTGACACTTGAACCTGCTCTACTCGAGCAAGCGACAGAGAGGCTCAATT	6840
Db	6781	CTGTCACTGTGACACTTGAACCTGCTCTACTCGAGCAAGCGACAGAGAGGCTCAATT	6840

QY 1795 ACGCGGGGCTTTAATTGACGAGCGGCGCGGATTTACATCAGTGCCTGTCCGCGCTGG 1854
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Db 2679 ATGCGCGGCTTGGCGCTGCGCCAAACGCAATGCGTTTACATCAGTGTCTGTCCGCGCTGG 2738
| | | | |
QY 1855 CACAAATCAGCAGATGTCGCGGCTTTGATTTTCCACGTCAGCAACTGCGCGCTGCT 1914
| | | | |
Db 2739 CGCAATCAGTCACTGGTGGCGGCTTTGATTTTCCAGCAGCAACTGCGAGCTGCT 2798
| | | | |
QY 1915 ATCAGCGCTGGGGCCACTCGCGCCCGGCTTTCTCTGCGCGCTCCATGCGCGCTGGC 1974
| | | | |
Db 2799 ATCAGCGGTGGTTCGCTGCGACTCCAGTTGCTAGCGGCGCTCGCGCACTCGTGGC 2858
| | | | |
QY 1975 CAGCGCTGCGTCAGCGCGGTGTTATGCTGCTGCTGGGTAGCTGCAAGGCGCATGCTTCC 2034
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Db 2859 CAGCGCTGCGCAGCGGTGTTATGCTGCTGGGTGAGCTACAGGGGCACTGCTTTC 2918
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QY 2035 GCGTGTTCATCTGCACTGCGCGAGCGGTGCGCGAGCTGCGGCTATCGCTGGTATCGCC 2094
| | | | |
Db 2919 GCGTGTTCGCACTCTGCTCAGGCTGCGCGCAATCAGAGCTGTGCTGGTGGTGCAC 2978
| | | | |
QY 2095 ATTGTGGGGATTAAACGCCGAAACAGACGATCAGCTGGAGCTCGCTGGCGCGCGTGGG 2154
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QY 2155 TGACGGATTTGCTGATCAGCGCGCGAGGCTTACAGCAGCGCGAGCTGTTTATCACTCATG 2214
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QY 2215 CCGGTTTAAACAGCGCGCTGGAAGCACTGGAATCGCGGTAGCGCGATGCTGGCGCTGCCGA 2274
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Db 3099 CCGGTCTGAACAGTGGCTGGAAGCACTGGAGTGGCAACGCCGATGCTGGCGCTGCCGA 3158
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Db 3159 TCGCTTCGATCAGCGCGGCTGGCGGCACTTATGATGGCAACGCGGTGCGCGCGCGG 3218
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QY 2335 CATCAGCTTTAGCGGTGTTTCATCACTGGAAGAGCATCTGCAACAGCTGCTGACCGAGC 2394
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QY 2395 ATCGTTACGCTACGAGTGTGAGGTTTACAGGCGCAGCTCAGCGCGAGCGGTTGCC 2454
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QY 2455 AGCGTGGCGGCATCTGTCAGCAGCGCTGTGCGCAGCAGCAAGTGTGTCGCGGAGG 2514
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Db 3339 CGCGCGGCTGATATTGTGAGCAGCGGCTGTGTGAGCAAACTGCTGCGCGGAGG 3398
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QY 2515 CGACTGATGCGCAGCAATACGATGTGATTTTGTGCTGGCTGGAAGTGGGCTTACGCGCT 2574
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QY 2575 GATTGCGTGGCTGCTGCGTCAATTCAGCCCAACTGAAATGCGCTTGTGTCGAGAGCGA 2634
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Db 3459 GATTGCGTGGCTTACCGCAGCTGCGCAGCTTAAAGTTTGTCTACTGGAGATCA 3518
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QY 2635 TGCGCATCCGCGAGCAATCATCTGCTGCTTTTCATCAGCAGCATCTCAGCGCGGAA 2694
| | | | |
Db 3519 GCGCAGCGCGCGGCAATCATCTGCTGCTTCCATCGCGAAGAGCTCAGCGAAGCGCA 3578
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QY 2695 ACTTGGCTGGCTGCAACCGCTGATTAACGCTGGTGGTGGTTCAGGTATCAGGTGCGTTTCC 2754
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QY 2755 TGCGTGGCGCGCAATTCGAGCGGGAATATTTGTTCCATCGCATCAGCGGATTTTGGCCG 2814
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QY 2935 TCGCGGCTTGCAGCCGACGCCACATCTGCAGCTGGGTATTCAGGTGTTTCTTGGACAAGA 2994
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QY 2995 GTGGAGCTGGCGCAGCGCAGCGCTGCGAGCAGCGATCCTGATGATGATGCGCACCGTCGA 3054
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Db 3879 GTGGCAACTGGCGCGCGCATGCGCTGCGAGCAGCAATATTGATGACGCCAGCGTCGA 3938
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QY 3115 TGAAGTACCCATTACGTTTAAACAGCGCGCTGGCGGAGAACACCGCTCGTCAGCACAT 3174
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Db 3999 TGAAGTACCCACTTACATCAACCATGCCACGCTGGATGCCGACAGCGCGCGCTCACAT 4058
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QY 3175 GCGGACTATGCCAATCAGCAAGCTGGAGCTGAGTACGCTGCTGCTGAGAGCAGCG 3234
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Db 4059 TACGGAATTATGCCCAACAGCGCGCTGGAATTTGCGCCAGTGTGCGGAGGAGCAGG 4118
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QY 3235 CATATTACCGATTACCTGAGCGCAACATCGATTCGATTCTGCAACAGCAGCGCGGCCA 3294
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QY 3295 AGCGTGCAGCGGCTGCGCGCGGCTGTTTCATATGCCACACCGTTTACTCTTTGCCGT 3354
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QY 3355 GCGCTGGCGCTAGCGGAGTTGTAGCAGCGCTGTGTCGCCACCGATGCCCTCAGCTCAG 3414
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Db 4239 CGCGTGGCGCTGCGGAGAGATTGCGCAGCAGCTGCGCGCGGAGCCTCACACGCTGAG 4298
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QY 3415 CCAACATATCGAAGCTTTTCCGCTCAGCAGTGGCGGAAACAGGATTTTTCCTGCTGCT 3474
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QY 3475 AAACCGCATGCTGTTTGGCGGTAAGCGCAGCAGCGCTGCGCGCTGATGCAACGTTT 3534
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QY 3535 TTACCGCTCGATGCGCGGTTAATAGCGCTTTTACCGCGGCAACTGCGCGCTGCGCG 3594
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Db 4419 TTACCGCTTGAACCGCGATTTGATTAGCGCTTTTACCGCGGCAACTGCGCGCTCAG 4478
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QY 3595 TAAAAACGCGATTTCTGTCGCGCAAGCGCGCTGCCCATCGGTGAAGCGCTGCGCGC --- 3651
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Db 4479 TAAAGCAGCATTTCTGTGCGGCAACCGCGGCTCCCTCTCGCGGAGCGCTGCGCGCAT 4538
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QY 3652 GCTGTTGAAATTTCTGTGAAACAGGGAAGAAAAATGAAAACGCACTTATGTTGATTTGG 3711
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Db 4539 GATGATGACCTCTCCGTTTACCGAGGAAGAAATATGAAAACGCACTATGTTGTTGGCG 4598
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QY 3712 GGCTTTGGCGGCTTGGCGCTGGCGATTTGCGCTGCAAGGCGGCGCATACCAACACCTTA 3771
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Db 4599 GGCTTGGCTGGCGCTGGCGATTTGCTGCAAGCGCGCGCTGCGCGCTGCGCGCTG 4650
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QY 3772 CTCGAGCAGCGCGCAAAACCGCGCGGACGCGCTTATGTTGTTGAGGACAGTGGCTTTTACC 3831
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Db 4659 CTGGAACAGCGCATAGCCCTGGCGGCGCGCTTATGTTATCAGGATCAGGGTTTACC 4718
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QY 3832 TTGATGCGCGGACCCACCGGTGATCACCGATCCAGCGCATTCGAAGAGTGTTCACGCTG 3891
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Db 4719 TTTGATGCGCGTCCGACGCGTATCCGATCCGAGCGCTATCGAGGCGCTGTTTACGCTG 4778
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QY 3892 GCAGGAAATCGCTCAGCGATTACGTCGAGCTGATGCGGTAAACGCGCTTCTATCGCTG 3951
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Db 4779 GCAGGCAAGCAACTCAGTGATTATGTCGACCTGATGCGGCTGACGCCATTTTATCGCTG 4838
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QY 3952 TGCTGGGAGATGGCAACAGCTTGTATTAAGCAATTAATCAGCGCGCTGCTGAGCAGCAG 4011
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Db 4839 TGCTGGGAAGACGGCAGGACGCTGGAGCTACGACAAACATACGGCGCAGCTGGAGCAGCAG 4898
Qy 4012 ATCCCAAGCTTCAATCCGCAAGATGTAGAAAGCTATCGTCAATTTCTTGCCCTATTTCACGT 4071
Db 4899 ATTGCCACTTTTAAATCCCCAGGATGTCGCGGTTACCGCGAGTTTCTGGCCCTATTTCACAG 4958
Qy 4072 GAAGTATTTAGAGAGGTTATCTGAAATCTCGGACGGTGGCGTTTCTGACAGGTGGTGAC 4131
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Qy 4132 ATGCTGGCGCTGGCGCGCAGTTGGGAGCTGTGCAAGCATGCGCAGCGCTACAGCATG 4191
Db 5019 ATGCTGGCTGGCGGCGCAGCTGGTGGCTGCAAGGCTGGCGAGGTCTACAGCATG 5078
Qy 4192 GTGGCGAAATTTATTCAGAGCAGTCACTGTGGCTCAGGCGTTTCTTCCATCACTATGCTG 4251
Db 5079 GTGGCGAAATTTATTCATGACGATCACTGCGCCAGGCTTTTCTTTCACCTCGTGGTG 5138
Qy 4252 GTGGCGGTAATCTTTTGGAAAGTCACTGATCTATATCTTAATTCATTCATGCGCTGAGCGT 4311
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Qy 4312 GAATGGGCGTGTGGTTCGCGCGGCGCAGCTGTGTAATGCGGAGTGGAGCATGCGCGA 4371
Db 5199 GAATGGGCGTGTGGTTCGCGCGGCGGATACCGGTGGCTGGTGTGATGGCATGGCGCG 5258
Qy 4372 CTGTTCCAGAGACTTGGGCGGCGAGCTGTACTGAATGCGGAGTGGAGCAGCTGGAAC 4431
Db 5259 CTGTTCCGCGATTTGGGCGGTGAATGCTGTCTAAAGCGGAGTCAAGCAGCTGGAGAC 5318
Qy 4432 AGCGCAATTCGATTTAGCGGCTTCAGTTAGAGGCGGACGACGCTTCGATGCGCGCGCT 4491
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Qy 4492 GTGGCTCCATTCGAGCTGGTGCATACCTACGACAACTGCTTGGCCACCATCGCGT 4551
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Qy 4552 GCAATGAACGTGCGAATCTGTAAGCGTAAGCGCATGAGCAACTGCTGTGTTGTACTC 4611
Db 5439 GCGGTAACCGCGGCGCACTGTAAGCGCAAGCGGATGAGCAACTGCTGTGTTGTACTC 5498
Qy 4612 TATTTGGCTGAATCAGCCGATGAAACAGCTCGCGCACCAACGCTGTGTTTGGCGCG 4671
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Db 5559 GCTATCGTGAATGATCGATGAGATTTTCAATAGCAGCAGCTGGCGGAGATTTCTCG 5618
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Qy 4792 TTTTATGTGTTAGCGCGGTGCCGATCTCGGCAACCGCTGACATCGACTGGCAACAGGAA 4851
Db 5679 TTTTACGTGCTGGCGCGGTGCCGATCTCGGTACCGCGCAATTGACTGGCAACAGGAA 5738
Qy 4852 GGACCGCGCTGGCGGATCGAATTTTTCGCTGATCGAGCAGCATACATGCGCGGATTA 4911
Db 5739 GGGCGCGCTGGCGGATCGCAATTTTTCGCTATCTGAGGAGCATATATGCGGGGCTG 5798
Qy 4912 CGTCAGCAATTTAGTGACACAGAAATGTTTACGCGCTTTGATTTTCGCGACAGCTGCAT 4971
Db 5799 GCACAGCATTTAGTGACACACCGTATGTTTACGCGCTTTGATTTTCGCGACAGCTGCAC 5858
Qy 4972 GCCCATCAGGCTCGCGGCTTTTCGCTGGAGCGGATTTTTCGCAAGAGCGCTGTGTCGC 5031
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Qy 5152 GATCGCGCGAATGAATTCGACAGCCTTTTATCTTGAGCAAGTAAACGCAACCATTCGCGGTG 5211
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Qy 5332 AAGCGCGACGCGAGCATGCCGTTCGAGACGGCGAGCGATGATGCGATCTGCAAAATG 5391
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Qy 5392 AAACCCCGCGCGCTACAGCGCGCGCACATGATGAACCGCGCTTTAGGCGCTTTCAGG 5451
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Qy 5452 AAGTGGCGATCATTTACACAGCTGCCGCAACAACTGGCGTTTGTATCATCTGGAAAGCTTCG 5511
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Qy 5512 CTATGATGACGCGCAACGAACTTACGCGAGCTTCGATGACACGCTGGCTTACTGCTATC 5571
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Db 6459 ACCTGGCGCGCTGCTGCTTGTGATGATGCGCGCTAAATGGGCGTGGCGATGAGCGCG 6518
Qy 5632 TGCTCGATCACGCTGCGATTTAGGACTGGCTTTCAGCTCACCTAAACATTCGCGCGCAGCA 5691
Db 6519 TACTCGATCACGCTGTGATTTGGTCTGGCGTTTTCAGCTTACCAATATCGCAGGATA 6578
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Qy 5752 GATTTACGCGCGATACGCTGACCGCGCAACATCTGCGAGCGCTCGCTCAGCTGGCAG 5811
Db 6639 GACTGAGCGCGCGCTGCTGCGGATCCGCAACATCGCGAGCGCTGGCGCGCTGGCGAG 6698
Qy 5812 CGCGTTTGTGCGGCGGCGGAAACCTTATTCATCTCGCGCGCATCCGCTTTTACCGGCTT 5871
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Qy 6052 CTGAACCGCTCGCGCTGCTGTGGCAGCGTCTCTGTTGATTTTACGTCGCTGACGCTG 6111
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Qy 6112 GCGCAGCGTGGCTTGCAGCTTATTCAGCGGTGGCGGTAGAGGAAACCAACGACGACGCA 6171
Db 6999 GCGCAGCGTGGCTTGCAGCTTGTGCAACGCGTGGCGGTAAAGAAAGCAAGGAAACGCA 7058

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QY 1690 TGCCCTTCGGTTTTCGACAGGATGACAAAGCGCTGAAGCGTTTTCAGGCCAGCGGATA 1749
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QY 1870 TGGTGGCGGCTTTGATTTTCCACGTGACGAACCTGCCGCTGCTATCAGCGCTGCGGC 1929
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Qy	3847	ACGGTGATCACCGATCCAGCGCCCATCGAAGAGTTGTTCAAGCTGGCGAGGAAATTCGCTC	3906	Db	6178	ACGCACCGTATGTTTACGCGGTTTCGATTTTTCGCGACGAGCTCAATGCTGCGAAGGTTTCG	6237
Db	5098	ACCGTTATACCGATCCAGCGGATTTGAAGAACTGTTGCTCTGGCCGGTAAACAGCTT	5157	Qy	4987	GCCTTTTCGCTGAGCGGATTTTGAACGAAAGCGCTGTTTCCGCCCGCATAAACCGCAT	5046
Qy	3907	AGCGATTACGTGAGCTGATGCGCGTAAACGCCCTTCTATCGCTGCTGCTGGAGATGGC	3966	Db	6238	GCCTTCTGGTTGAACTTATCTGACCCAGAGCGCTGGTTCCGACACATTAACCGCAT	6297
Db	5158	AAGGATTACGTGAGCTGTTTCCCGGTTACGCGGTTTATCGCCCTGTGCTGGAGTCCGCG	5217	Qy	5047	GCCGATATACGCAATCTTATCTGGTGGGTGCGGTTACGCAATCAGGCGGGGCTGCC	5106
Qy	3967	AAACAGCTTGATTACGCAATAACTACGCGCTGCTGAGCAGCAGATCGCCACCTTCAAT	4026	Db	6298	AAGCACATTGATTAATCTTATCTGTTGCGCAGGACCCATCTGTCGGCGGGCATTTCCC	6357
Db	5218	AAGTCTTCAATTACGATACGACAGGCCAGTTAGAGCGCAGATACAGCAGTTTAA	5277	Qy	5107	GGCGTGTGCTGGCCCAAGGCCACCGCAGGCTGATGTGGAGGATCGCGCGCATGA	5166
Qy	4027	CCGCAAGATGTAAGGCTATCGTCAATTTCTTCCCTATTCACTGTAAGTATTTAGAG	4086	Db	6358	GGCGTAACTGGCTCGCGAAGGCGACGGCAGGCTTAAATGCTGGAGGACCTGATTTGACGA	6417
Db	5278	CCGCGCATGTTGCGGGTTATCGAGCGTTCCTTGACTATTTCGCTGCGGTATTCATAG	5337	Qy	5167	ATCGACAGCTTTTACTTTAGCAAGTAAACGCAACCAATGGCGGTGGGCTCGAAGAGTTTCG	5226
Qy	4087	GGTTATCTGAACCTCGGACGGTGCGCTTCTGAGGTGCGTGATGCTGCGGCTGCG	4146	Db	6418	AT--ACGTCATTACTGAATCATGCCGTCAAACCATGGCGGTTGGCTCGAAAGCTTTG	6474
Db	5338	GGCTATCTGAAGCTCGGCACTGTGCTTTTATCGTTCAAAGACATGCTTCGGGCGCG	5397	Qy	5227	CCACCGCCGCAAGCTGTTTGTATGACCGACCGCCGACGACGCTGATGCTGTATGCGT	5286
Qy	4147	CCGAGTTGGACGCTCTGCAAGCATGGCGAGCTCTACAGATGGTGGCGAAATTTAT	4206	Db	6475	CGACTGCATCGACGCTTTTCGACGCCAAACCCGTCGCAGCGTCTGATGCTTTACGCAT	6534
Db	5398	CCCAGTTGGCAAGCTGCGAGCATGGCGAGCGTTTACAGTAAAGTTGCCGCTACATT	5457	Qy	5287	GGTGTGCTCACTGGGATGATGTGATGACCGCGCCGACGACGCTGATGCTGTATGCGT	5346
Qy	4207	CAGGACGATCATCTGCGTCAAGCGGTTTTCTTCCACTCATTTGCTGGTGGCGGTAATCCT	4266	Db	6535	GGTGCCGCCACTGCGACGACGTCATTGACATCAAAACACTGGGCTTTTCATGCCGACGAGC	6594
Db	5458	GAGGATGAGCATCTTCGGCAGCGCTTTCTTTTCACTCGCTCTTAGTGGGGGGAAATCCG	5517	Qy	5347	ATGCCGTCGAAGACGCGCAGCGACGATGACAGATCTGCAAACTGAAACCCGCGCGCCT	5406
Qy	4267	TTTGCAACCTCGTCCATTTATACGCTGATTCACGCTTTAGAACGGGAAATGGGCGTCTG	5577	Db	6595	CCTCTTCGAGATGCTTGACGAGCGCTGACGAGCTTGAAATGAAACCGGTCAGGCT	6654
Db	5518	TTTCCGCGCGGACCGCGCGCTGGTGAGGCAATGGCGCGACTGTTTCGAGACTTG	4386	Qy	5407	ACAGCGCGCGCACATGGATGAACCGCGGTTTTAGGCGTTTTTCAAGAAAGTGGCGATCATTC	5466
Qy	4387	GGCGCGAGCTGTTACTGAAATGCCGAAGTGAGCCAGCTGGAAACCCAGCGGCAATTCGATT	4446	Db	6655	ACGCCGCTTCGCAAAATGCACAGCGCCCTTTTGC CGGCTTTTACGAGGCTGCGATGGCGC	6714
Db	5638	GGCGCGAAGTCGTGCTTAAACGCCCGGCTCAGTCATATGGAACCCGTTTGGGGAACAAGTT	5697	Qy	5467	ACAGCTGCGCGCAACAACTGGCTTTGATCATCTGGAAGGCTTCGCTATGGATCAGCA	5526
Qy	4447	AGCGCGTTCAAGTTAGAGGGGAGACGCTTCGATGCGCGCGCTGGCCCTCCAAATGCC	4506	Db	6715	ATGATATCGCTCCCGCCTACGCGTTTCGACCATCTGGAAGGTTTTTGCATGGATGCGCG	6774
Db	5698	CAGCGCGTGCAGTTTGGAAAGACGGCAGACGGTTTGAACCTCGCGGTTGGCGTCAACGCT	5757	Qy	5527	ACGAACTATACGCGAGCTTCGATGACACGCTGCGTTACTGCTATCATCGTCCGCGCGTGG	5586
Qy	4507	GACGTGGTGATACCTACGACAACTGCTTCGCCACCATCCGCTGGCAATGAACGTCGCG	4566	Db	6775	AAACGCCCTACCTGACACTGACGACGATACGCTGCGTTATGCTATCACTGCGCGGTGTTG	6834
Db	5758	GATGTTGTACATACCTATCGCGATCTGTGTCTCAGCATCCCGCAGCCGCTAAGCAGCG	5817	Qy	5587	TCGGTTTGTATGATGGCGCGGTAAATGGCGGTGCGCAGCAGAGCGGTGCTCGATCAGCCT	5646
Qy	4567	ACATGCTGAAGCGTAAGCGCATGAGCAACTCGCTGTTGTTGATCTCTATTTTGGCTGAAT	4626	Db	6835	TGGGCTGTATGATGGCGCAAAATTAATGGCGGTTTCGCGATAACGCCACGCTCGATCGCGCT	6894
Db	5818	AAAAAATCTGCAATCCAGCGTATGAGTAACCTCACTGTTGTACTCTATTTTGGTCTCAAC	5877	Qy	5647	GCGATTTAGGACTGGCGGTTCCAGCTCACTAACATTTGCGCGGACATTTGTAGAAGATGCG	5706
Qy	4627	CAGCGCATGAACAGCTCGCGCACACACCGCTGTTTGGCCCGCTTATCGTAGTTG	4686	Db	6895	GCGATCTCGGGCTGGCTTTCAGTTGACCAACATTTGCGCGGTGATTTGTTCACCATGCTC	6954
Db	5878	CATCATCAGATCAACTCGCCCATCATACCGCTGTGTTTGGGCCACGCTACCGTGAAC	5937	Qy	5707	AAAAATGCTGCTGCTATCTGCCCAATCTCGGCTCGATCAGCGCGGGATTTACGCGCCGATA	5766
Qy	4687	ATCGATGAGATTTTCAACAGCAGCCAGCTGGCAGACGATTTTTCATCTTTTACCTGCACGCG	4746	Db	6955	AGGTGGCGCGCTGTTATCTGCTGAAAGCTGGCTGGAAGAGGAGGACTGACGAAAGCGA	7014
Db	5938	ATTACGAAATTTTAAACATGATGGTCTGCTGAGGATTTTTCGCTTTATTTACACGCA	5997	Qy	5767	CGCTGACTGCAACCGCAACATCGTGACGCTGCGCTCATCTGGCAGCGGTTTGTAGTGGCG	5826
Qy	4747	CCCTGACAGCGATCCGTGCTGGCACCGCCCGCTCGCGAGCTTTTATGTGTAGCG	4806	Db	7015	ATTATGCTGGCGCAGAAACCCGACAGGCTTAAAGCCGTATTCGCGGGGCGACTGGTACGCG	7074
Db	5998	CCTTGTGTCAGGATCCGTCATGCGCACCGGAAGGGTGGCGCAGCTATTATGTGTGCGG	6057	Qy	5827	AGGCGGAACCCCTATTATCATCTCGCGCGGATCCGGGTTTACCGGTTTACCGCTGCGCTCG	5886
Qy	4807	CCGGTGGCGCATCTCGGCACCGCTGACATCGACTGGCAACAGGAAGGACCGGCTGCGC	4866	Db	7075	AAGCGGAACCCCTATTATGCTATCATCAATGGCCGCTGTGGCAAAATACCTTACGCTCGG	7134
Db	6058	CCTGTTCACACTTAGGCAACCGCGAACCTCGACTGGCGGTTAGGAAGGACCCCGACTGCG	6117	Qy	5887	CGTGGGCGCATCGCTACGCTCGCGCGTTTTATCCGCAAAATGGCGTTCAAAAGTTTACGACG	5946
Qy	4867	GATCGAAATTTTGTCTTATCTGAGCAGCACTACATGCGGGATTAAGTACGCAAAATAGTG	4926	Db	7135	CCTGGCCATCGCAGCAGGAGCAGGTGTACCGTTAAATTTGGCGTGAAGTTGNACAGG	7194
Db	6118	GATCGTATTTTGTACTTCTTGAGGCAACATTACATGCTGCTGGCTTGGGAAGCCAGTTGGT	6177	Qy	5947	CCGGTGTGACCGCTGGGATTTCAAGGAGCGGCAACAGGTAAAGGTGAAAAAATGCGCGCTGC	6006
Qy				Db	7195	CCGGTAAGCAGCGCTGGGATCATCGCCAGTCCAGCTCCACCGCGGAAAAAATTAACGCTTT	7254

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RESULT 4

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US-10-735-019-28
; Sequence 28, Application US/10735019
; Publication No. US20040191863A1
; GENERAL INFORMATION:
; APPLICANT: E. I. duPont de Nemours and Company, Inc.
; APPLICANT: Cheng, Qiong
; TITLE OF INVENTION: Mutations Affecting Plasmid Copy Number
; FILE REFERENCE: CL2029 US NA
; CURRENT APPLICATION NUMBER: US/10/735,019
; CURRENT FILING DATE: 2003-12-12
; PRIOR APPLICATION NUMBER: US 60/434973
; PRIOR FILING DATE: 2002-12-20
; NUMBER OF SEQ ID NOS: 28
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 28
; LENGTH: 8609
; TYPE: DNA
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Plasmid pPCB15
US-10-735-019-28
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Query Match 37.4%; Score 2619.6; DB 8; Length 8609;
Best Local Similarity 64.7%; Pred. No. 0;
Matches 4015; Conservative 0; Mismatches 2169; Indels 24; Gaps 7;
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Db 2702 ACCTGCGCGCGCACCCCACTCGGACCCCTCGATGTACGACTCAATGAAATGCGACGTA 2761
QY 1510 GCACCGATATGCTGTGCGCGGAACTGCTGCGGTACTGAAAGCATTTGAAACATCGATGCG 1569
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Db 2762 CCAGCGATATGCTTTGCGGAACTGCCCGCGCTTTTCATGCGTTGCAGATAGAGGCG 2821
Qy 1570 TGATCGCGCAGAAATAGAAAGCGCGCGGATTTGGTCGTGAAGCGCTGCATCGCGT 1629
Db 2822 TGATCGTTGATCAATAGGAGCGCGCAGGTGCAGTAGTCGAGAAAGCGTCAGGTCGCGT 2881
Qy 1630 TTGTTTCGTTGCGCTTGGCCCTTGGCTTGGCTTGAATCGTGAAGCGCGGATTTCCGTTGCGGTGA 1689
Db 2882 TTGTTTCGTTGCGCTTGGCCCTTGGCTTGGCTTGAATCGTGAAGCGCGGATTTCCGTTGCGGTGA 2941
Qy 1690 TGCCCTTTCCGTTTGGACAGGATCAAAAGCGCTGAAAGCTTTTCAGGCGCAGACGAGATA 1749
Db 2842 TGCCCTTTCCGTTTGGACAGGATCAAAAGCGCTGAAAGCTTTTCAGGCGCAGACGAGATA 3001
Qy 1750 TCTATGATCGCATATGCGTGTGTCACGCGCAGCGTGTATCCTCAAAACAGCGCGCGCGTTTA 1809
Db 3002 TTTATGACTGGCTGATCGAGCTCACGATCGTGTGATCGCGCATCATGTCAGAGATGG 3061
Qy 1810 ATTTGACGAGCGCGCGGATTAATCATGATGCTGTGTCGCGCTGGCAGCAAAATCAGCCAGA 1869
Db 3062 GTTTAGCCCGCGTGAAAACTGCATCATTTGTTTCTCCACTGGCACAATCAGCCAGT 3121
Qy 1870 TGGTCCGCGCTTTGATTTTCCAGTCAAGCACTGCCGCGCTGTATCAAGCGCGTGGGCG 1929
Db 3122 TGATCCCGAACTGGATTTTCCCGCAAGCGCTGCCAGACTGCTTTTATCGCGTTGGAC 3181
Qy 1930 CACTCCGCG---CCCCGTTTCTCTGCGCGCTCCATGCGCCCTGGCCAGCGTGGGTC 1986
Db 3182 GGTTAGGCAACCCAGGGAGCGCGGGTCACTCACTTTATTTTCGTCGCCGAGCA 3241
Qy 1987 AGCCGCTGTTTATGCTCGCTGGGTAGCTGTGAAGGCGCATCGCTTCGCGCTGTTTCG 2046
Db 3242 AACCCCGTATTTTGGCTCGCTGGGCAACCTGCGAGGACATCGTTATGGCGCTGTTCAGGA 3301
Qy 2047 ATCTGGCGCAGCGCTGCGCAGCTGCGGCTATCGCTGGTATCGCCCATGTTGCGGGAT 2106
Db 3302 CCATCGCCAAAGCTTGCAGAGGTGGATGCGCAGTTACTGTTGGCACACTGTGGCGCC 3361
Qy 2107 TAAACGCCGAACAGACGATCAGCTGGAGCTGCTGGCGCGCGTGGGTGACGGAATTCG 2166
Db 3362 TCTCAGCCACGCGGAGGTGAATGCGCCCGGGCGGGACATTCAGGTTGTGATTTG 3421
Qy 2167 TCGATCAGCGCGAGCCCTCAGACGCGGAGCTGTTTATCATCTCATCGCGGTTTAAACA 2226
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Qy 2227 CGCGCTGGAGCACTGGAATGCGGTACGCGGATGCTGGCGCTGCCGATTTGTTGATC 2286
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Db 3722 ATATTGTTGAACAGCGGATGCG-GACCTGTGACCCAGTACTCAGTGGGCGAGATTAAGCA 3780
Qy 2527 CACGCAATACGATGTGATTTTGGTCTGGCTGGACTGGCGGAATGGCTTGTATGGCTGCG 2586
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Qy 2587 TCTGCTCAATTTGACGACCAACTGAAATGCTGTTGCTGGAGAGCGATGGCGATCCGCGC 2646

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Db 4381 CTACATTTGACAGGCTAATCTTCAGGCGGAAACGCGCGCTCAGAACATTCGCGATTATGC 4440
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Db 4558 ATTAGCGCGCGGCTGTTTCAATCGACAAACCGGCTACTCCCTACCGCTCGCGGTGGCGCT 4617
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Db 4618 GCGCGATCGTCTCAGCGCGCTGGATGTTTACCTCTTCTCTTCCACAGAGATTTGC 4677
Qy 3427 ACGCTTTGCGCGCTCAGCAGTGGCGGCAACAGCGATTTTTCGCTGCTGAACCCGATGCT 3486
Db 4678 TCATTTTCCCGCAACCGTTGGCAGCAACAGGGGTTTTTCGCGATGTGAATCGCATGTT 4737
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Qy 3547 TGCGGCGTTTAAATTAGCGCTTTTACGCGCGGCAACTGCGCTGCGCGGATTAACCGCGAT 3606
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Qy 3607 TCTGTCGCGCAAGCGCGGCTGCCCATCGGTTGAAGCGCTGCGCGCTGTTGTAATTCGT 3666
Db 4858 TCTGAGCGGCAAGCGCGCGCTTTCCCGTTTTCGCGGCGATTTGAGGCAATTTATGACACTCA 4917
Qy 3667 CGAACCGAGGGAAGAAAAATGAACGCACTTATGTGATGTCGCGAGGCTTTTGGCGGCTG 3726
Db 4918 TCGTTGAAGAGCGACTACATGAACCAACTACGCTAATTTGGTGGGCTTTTGGTGGCGCTG 4977

Qy	3727	CGCGTGGCGATTTCGCTGCAAGCGCGCGGCGATACAAACCACCTTACTCTCGAGCAGCGGCAC	3786
Db	4978	GCACTGGCAATTCGTTTACAGCGCGCAGGTAATCCCTGTTTGTCTGTGAGCAGCGGCAC	5037
Qy	3787	AAACCGGCGGACGCGCCTATGTGTTTGAGACAGTGGCTTTACTTTCGATCGCGGACCC	3846
Db	5038	AAGCGGGTGGCGGGCTTAGTTTATCAGAGCAGGGCTTACTTTTGATCGAGGCCCT	5097
Qy	3847	ACGTGATACCGATCCAGCGCCATCGAAGAGTTGTTCACGTGGCAGGAAATCGCTC	3906
Db	5098	ACCGTTATACCGATCCAGCGCGATTGAAGAACTGTTGCTCTGGCGGTAAACAGCTT	5157
Qy	3907	AGCGATTACGTGAGCTGATGCGCGGTAAACGCCCTTCTATCGCTGTCTCTGGGAAGATGGC	3966
Db	5158	AAGGATTACGTGAGCTGTTGCGCGGTCAACGCCGTTTTATCGCTGTCTCTGGGAGTCCGGC	5217
Qy	3967	AAACAGGCTTGATTACGACAATAAATCAGCGCGTCTCGAGCAGCAGATCGCCACGCTTCAAT	4026
Db	5218	AAGGCTTCAATTACGATACGACACGCGCCAGTTAGAGCGCAGATACAGCAGTTTAAAT	5277
Qy	4027	CCGCAAGATGTAAGGCTATCGTCAATTTCTTCGCCATTCACTGAAGTATTTAGAGAG	4086
Db	5278	CCGCGCGATGTTGCGGGTTATCGAGCGTCTCTTGACTATTCCGCTGCGCTATTCAATGAG	5337
Qy	4087	GGTTATCTGAAACTCGCACGCGTCCGTTCTGCAAGTGGCGTGATGCTGCGCGTCCGC	4146
Db	5338	GGCTATCTGAAGCTCGGCACTGTGCCCTTTTTTATCGTTTCAAGACATGCTTCGGGCGCGC	5397
Qy	4147	CCGCAGTTGGGACGCTCTGCAAGCATGCGCGCAGCGCTCTACAGCATGTTGGCGGAAATTTATT	4206
Db	5398	CCCCAGTTGGCAAGCTGCAGGCATGGCGCAGCGTTTACAGTAAGTGGCGGCTACATT	5457
Qy	4207	CAGGACGATCATCTGCGTCAAGCGCTTTTCTTCCACTCATCTGCTGGTGGCGGTAACTCT	4266
Db	5458	GAGTAGAGCATCTTCGCGCAGCGCTTTCTTTTCACTCGCTCTTAGTTGGGGGGAATCCG	5517
Qy	4267	TTTTCGACGTCATCGATCTATACCTTAATTCATCGCTGGAGCGTGAATGGGCGCTGG	4326
Db	5518	TTTTGCAACCTCGTCCAATTTATACGCTGATTCACGCGTTAGAACGGGAATGGGGCGTCTGG	5577
Qy	4327	TTTCCGCGCGCGGCACCGCGCGCTGGTGAGGGCATGGCGGCACTGTTTCGAGGACTTG	4386
Db	5578	TTTCCACGCGGTGAAACCGGTGCGCTGGTCAATGGCATGATCAAGCTGTTTCAGGATCTG	5637
Qy	4387	GGCGCGAGCTGTTTACTGAATGCCGAAGTAGCCAGCTGGAAACCAACGCGCAATCGCAATT	4446
Db	5638	GGCGCGAAGCTGCTGCTTAAACGCCCGGGTCAGTCATATGGAACCGTTGGGACACAGATT	5697
Qy	4447	AGCGCGCTTCAGTTAGAGGGCGGACGAGCTTTCGATGCGCGCTGTGGCCTCCAAATGCC	4506
Db	5698	CAGCGCGTGAGTTGGAAGACGGCAGACGGTTTGAACCTTCGCGGGTGGCGGTCCGAGCGT	5757
Qy	4507	GACGTGTTGCATACCTACGACAAACTGCTTCGCCACCATCCGCTGGCGCAATGAACAGTGGC	4566
Db	5758	GATGTTGTACATACCTATCGCGATCTGCTGTCTCAGCATCCCGCAGCGCTAACGAGCGC	5817
Qy	4567	ACATCGCTGAAGCGTAAAGCGCATGAGCAACTCGCTGTGTTGTACTCTATTTTGGCCTGAAT	4626
Db	5818	AAAAAATGCAATCCAAAGCGTATGAGTAACTCACTGTTGTGTACTCTATTTTGGTCTCAAC	5877
Qy	4627	CAGCGCATGAACAGCTCGCGCACCAACACGTCGTTTTCGCCCGCGCTATCTGAGTTCG	4686
Db	5878	CATCATCAGATCAACTCGCCCATCATACCGTCTGTTTGGGCCACCGCTACCGTGAACCTG	5937
Qy	4687	ATCGATGAGATTTTCAACAGCAGCCAGCTGGCAGACGATTTTTCATCTTTTACCTGCACGCG	4746
Db	5938	ATTCACGAAATTTTTTAACCATGATGGTCTGGCTGAGGATTTTTCGCTTTATTTTACACGCA	5997
Qy	4747	CCCTGCAGCAGCGATCCGTCTCTGGCAACCGCCCGCTCGCGCAGCTTTTATGTGTAGCG	4806
Db	5998	CTTTGTCTCAGGATCCGTCACTGGCAACCGGAAGGGTGGCGAGCTATTATGTCTGGCG	6057

QY	4807	CCGGTCCGCATCTCTGGCACCCTGACATCGACTGGCAACAGAGAACCGCGCTTGGCG	4866
DB	6058	CTGTGTTCCACACTATTAGCCACGGCGAACTCTGACATGGGCGGTAGAAGACCCCGCATGGCG	6117
QY	4867	GATCGAAATTTTTGCTTTATCTGGAGCAGCACTACATGCCGGATTACGCTCAGCAATTAAGTG	4926
DB	6118	GATCGTATTTTTTGACTTACCTTGAGCAACATTACATGCTGGCTTGGAGAGCCAGTTGGTG	6177
QY	4927	ACACA CAGAAATGTTTACCGCGTTTGAATTTTCGCACACGCTGCTATGCCCATTCACGGCTCG	4986
DB	6178	ACGCACCGTATGTTTACGCGCGTTTCGATTTCCCGCGACGAGCTCAATGCTTGGCAAGTTTCG	6237
QY	4987	GGGTTTTCCGTCGAGCCGATTTTTCAGCAAAAGCGCTGTTTCGCCCGCGCATAACCCGCGAT	5046
DB	6238	GGCTTCTCGGTTGAAACTTATCTGACCCAGAGCGCTGGTTTCGACACCATAAACCCGGAT	6297
QY	5047	GCCGATATCAGCAATCTCTATCTGTTGGGTGCCGTTACGCACTCCAGSCGCGGGCGTGCCT	5106
DB	6298	ANGCACAATGATTAATCTTTATCTGGTTTGGCGAGGCCCATCTTGCGCGGGGCAATTTCCC	6357
QY	5107	GGCGTGATCGGTTTCGGCCAAAGGCCACCGCCAGGCTGATGCTGGAGGATCGCGCCGAATGA	5166
DB	6358	GGCGTAATCGGCTCGCGCAAGCGCAGCGAGGCTTAATGCTGGAGGACCTGATTTTGACA	6417
QY	5167	ATCGACAGCCTTTATCTTGAGCAAGTAATACGAAACCAATGGCGGTGGGCTCGAAGAGTTTCG	5226
DB	6418	AT--ACGTCATTACTGAATCATGCGCTCGAAACCAATGGCGGTGGCTCGAAAAAGCTTTG	6474
QY	5227	CCACCGCGCCAAAGCTGTTTGTATGACACCGACGCGCGCAGCAGCTGATGCTGATCGCT	5286
DB	6475	CGACTGCACTGACGCTTTTCGACGCCAAACCCGTCGACGCTGCTGATGCTTTTACGAT	6534
QY	5287	GGTGTGCTCACTGCGATGATGTGATTGATGGGCAAAACGCTGGCGGCAAGGGCGCACGAGC	5346
DB	6535	GGTGGCGCACTGCGACGAGCTTATGACGATCAATGACATCTGGGCTTTTCATGCCGACGAGC	6594
QY	5347	ATGCCGTGGAAGCGCGCAGGCACTGATGAGAGATCTGCAAAATGTAACCCCGCGCGCT	5406
DB	6595	CCTCTTCGAGATGCTGAGCAGCGCTGCGACGCTGCAAAATGAAAAACGCTCAGGCT	6654
QY	5407	ACAGCGCGCGCACATGGATGAAACCGGCTTTAGGCGGTTTACGAGAGTCGCGCATCTTC	5466
DB	6655	ACGCGGTTTCGAAATGCAAGACCGGCTTTTGGCGGTTTACGAGAGGTTCGCGATGGCG	6714
QY	5467	ACCAGCTCGCCCAACAACTGGCGTTTGATCATCTGGAAGGCTTTCGCTATGATGACGCA	5526
DB	6715	ATGATATCGCTCCGCTACGCGTTGACCACTGAGAGGTTTGCATGATGATGTCGCG	6774
QY	5527	ACGAACATTACGCGAGCTTCGATGACACGCTGCGTTTACTGCTATCAGTCGCGGGCGTGG	5586
DB	6775	AAACGCGCTACTGACACTGGACGATACGCTGCGTTTATGCTATCAGTCGCGGCTGTTG	6834
QY	5587	TCGGTTTGATGATGGCGCGCTTAATGGGCGTGGCGCAAGAGGGTGTCTGATCAGCGCT	5646
DB	6835	TGGGCTGATGATGGCGCAAAATATGGGCGTTTCGCGATAACGCCACGCTCGATCGCGCT	6894
QY	5647	GGGATTTTAGGACTGCGCTTCAGAGCTCACTAAACATTCGCGCGACATTTGTAGAAGATCCCG	5706
DB	6895	CGGATCTCGGGCTGGCTTCAGTTGACCAACATTCGCGGTGATATTTGTCAGCATGCTC	6954
QY	5707	AAAATGGTCGCTGCTATCTGCCGCAATCCTGGCTCGATCAGGCGGGATTAACGCCCGATA	5766
DB	6955	AGGTGGCGCGCTTATCTGCTGAAAGCTGGCTGGAAGGAGGACTGACGAAAGCGA	7014
QY	5767	CGCTGACTGCACCGCAACATCTGTGACGCGCTCGCTCCTCATGCGCAGCGCGTTTATGGCGG	5826
DB	7015	ATTATGCTCGCGCAGAAAAACCGGCAAGGCTTAAGCGGCTATCGCCGGCGCATGCTGACGG	7074
QY	5827	AGGCGGAACCTTATTAATCTCGGCGCATCGGTTTACCGGTTTACCGCTCGCGCTCGG	5886
DB	7075	AGCGGAACCTTATTAATGATGATCATTAATGGCGGCTCTGGCAAAATTAATCCCTTAACGCTCGG	7134
QY	5887	CGTGGCGCATCGCTACGGCTCGCGGCGTTTATTCGCAAAATGGCGGTCAAAGTTTCAGCACG	5946

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Db 7195 CCGGTAAAGCGCCTGGGATCATCGCCAGTCCAGGTCCAGCGCGGAAAAATTAACGCTTT 7254
Qy 6007 TGGTGAAGGGGAGGTTTGGCGATCACTTCGCGTGTCTCGTCTGAACCGGTCGG 6066
Db 7255 TGCTGACGGATCCGGTCAGGAGTTACTTCCCGATGAAGCATCCACCCGTCCTG 7314
Qy 6067 CTGGTCTGTGCGAGCCTCTCGTTGATTTTACGTCGCGTGAAGCGCTGGCGACGCTGGCTTG 6126
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Db 7429 TACAGCATGATGATACGCTGGCGCATGTATAGCGCTTTCAGGTAGCCTTTGCGGGAT 7488
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Db 7669 GCCTTTAGCGGTTTCATGATGAAGATGCGAGCCCAACCGCGCTGCATGATGA 7728
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Db 7789 ATTCCAAATCCACAAATAATTTCTCAA 7816

RESULT 5

US-10-734-778-40
; Sequence 40, Application US/10734778
; Publication No. US20040209365A1
; GENERAL INFORMATION:
; APPLICANT: E.I. duPont de Nemours and Company, Inc.
; APPLICANT: Suh, Wonchul
; APPLICANT: Rouviere, Pierre
; TITLE OF INVENTION: PARALLEL CHROMOSOMAL STACKING OF TRAITS IN BACTERIA
; FILE REFERENCE: CL2026 US NA
; CURRENT APPLICATION NUMBER: US/10/734,778
; CURRENT FILING DATE: 2003-12-12
; PRIOR APPLICATION NUMBER: US 60/434773
; PRIOR FILING DATE: 2002-12-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patent in version 3.2
; SEQ ID NO 40
; LENGTH: 8609
; TYPE: DNA
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Plasmid pPCB15
US-10-734-778-40

Query Match

37.4%; Score 2619.6; DB 8; Length 8609;

Best Local Similarity 64.7%; Pred. No. 0;
Matches 4015; Conservative 0; Mismatches 2169; Indels 24; Gaps 7;
Qy 373 CAGGTGAGCAAAATTTTACAGGCGCATCTTTGAACATTTACTGCTGCGGACAGCAAGC 432
Db 1627 CAGTTGTGCTGATATCGATAGCCGCTTTGATCAGTTACTTGCCTGAGGAGCGG 1686
Qy 433 GATCGGTGCTGCGGATGCGTGGGAAACCTGCGGAGGCAACGATTTTCGTCCT 492
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Db 1807 GATTTAGCTTGGCGGTTGAAATGTTGTCATGCTGCTCGCTGATTTCTGGATGATATGCC 1866
Qy 613 TCGATGATTAACGCGCAGATGCGTGGTGGCTTACCGTACCGTATCGCGAATTTGGTGA 672
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Qy 673 AACGTGCGGATTTCTGCGCGCATCGCGCTGCTTAGCGCGCATTTGAAGTGAATTGCCATT 732
Db 1927 CATGTGCGGATTTCTGGCGCGGTCGCTTTACTCAGCAAAAGGTTTGGGTTGATTTGCCGAG 1986
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DB 5158 AAGGATTACGTCGAGCTGTTGCCGGTCAACCGCTTATTCGCTGTGCTGGGAGTCCGGC 5217
QY 3967 AAACAGCTTGATTACGACAAATACAGCGCTGCTGGAGCAGCAGATCGCCACGTTCAAT 4026
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QY 4027 CCGCAAGATGAGAAAGGCTATCGTCAATTTCTTCTGCTTATTCAGCTGAAGTATTTAGAGAG 4086
DB 5278 CCGCGCATGTTGGGGTTATCGAGCGTTCCTGACTATTCGCGTGGCGTATTCAGTAG 5337
QY 4087 GGTATCTGAACCTCGGACCGGTGCGTTCCTGCAAGTGGCGTGAATGCTGCGCGTGGC 4146
DB 5338 GGCTATCTGAAGCTCGGACGTGCTGCTTTTATCGTTTCAAGACATGCTTTCGGCGCGCG 5397
QY 4147 CCGCAGTTGGACGCTGTCAGACGATGGCGAGCGTTCACAGCATGGTGGCGAAATTTAT 4206
DB 5398 CCCAGTTGGCAAGCTGCAAGCATGGCGAGCGTTCAGTAAGTTGGCGGTACAT 5457
QY 4207 CAGGACGATCATCTGCTGCGTCAAGCGGTTTCTTCTCACTCATTTGCTGGGCGGTAATCCT 4266
DB 5458 GAGATGACATCTTCGGCAGCGTTCCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT 5517
QY 4267 TTTGCAAGCTCATCGATCTATACCTTAAATTCATGCGCTGGAGCGTGAATGGGCGTGG 4326
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QY 4327 TTTCCGCGCGGCGACCGCGCGCTGGTGCAGGCGATGGCGGACTGTTTCGAGACTTG 4386
DB 5578 TTTCCACGCGTGAACCGGTGGCTGGTCAATGGCATGATCAAGCTGTTTCAGGATCTG 5637
QY 4387 GCGCGGAGCTGTTACTGAATGCGAAGTGAAGCAGCTGGAACCCAGCGCAATCGCAT 4446
DB 5638 GCGCGGAGCTGCTGCTTAAACCGCGGTGAGTCAATGGAACCGTTGGGAGCAAGATT 5697
QY 4447 AGCGCGCTTCAAGTTAGAGGCGGAGCAGCTTCGATGCGCGCTGTCGCTTCAATGCC 4506
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QY 4507 GACGTGGTGCATACCTACGACAACTGCTTCGCCACGATCCGCTGGCAATGAACGTCG 4566
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QY 4567 ACATCGCTGAAGCGTAAGCGATGAGCAACTCGCTGTTGTGACTATTTTGGCGCTGAAT 4626
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QY 4627 CAGCGCATGAACAGCTCGCGACCAACACCGTCTGTTTGGCCCGCTTATCGTAGTTG 4686
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QY 4687 ATCGATGAGATTTTCAACAGACCGCAGCTGGCAGACGATTTTTCATCTTACCTGACCGG 4746

DB 5938 ATTCAAGAAATTTTAAACATGATGCTGCTGGCTGAGGATTTTTCGCTTATTTACACGCA 5997
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Db 5578 TTTCCACGCGGTGGAACCGGTGGCTGCTCAATGGCATGATCAAGCTGTTTCAGGATCTG 5637
Qy 4387 GCGGCGAGCTGTTATCTGAATGCGGAAGTGAAGCAGCTGGAACCGAGCGCAATCGCAAT 4446
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Db 5698 CAGCGCGTCGACTTGAAGACGCGCAGACGCTTTGAAACCTCGCGCTGGCTGCGACGCT 5757
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Db 5758 GATGTTGTACATACCTATCGCGATCTGCTGTCTCAGCATCCCGCAGCCGCTAAGCAGCG 5817
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Qy 4687 ATCGATGAGATTTTAAACAGCAGCAGCTGGCAGAGATTTTTCATTTTACCTGCAAGCG 4746
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Qy 4747 CCTGACAGCAGATCCGCTGCTGCGCACCGCCCGCTGGCAGCTTTTATGTGTTAGCG 4806
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Qy 4987 GCGTTTTCTCGAGCGGATTTTACGCAAGCGCTGTTTCCGCCCGCATTAACCGCAT 5046
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Qy 5047 GCGGATATCAGCAATCTCTATCTGTTGGTGGCGGTACGCAATCCAGCGCGGCGTCCC 5106
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Qy 5287 GGTGCTGCTACCTGCGATGATGTTGATGGGCAACCGCTGGCGGAAGCGCGCACGCGC 5346
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Qy 5467 ACCAGCTGCGCAACAACTGGGCTTTGATCATCTGGAAGCTTTCGCTATGCGATGCA 5526
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3182 CGTTACGGCAACCCAGGGAGCGCGGGTCATCAACTTCTATTTTCCGTCGCCGAC 3241
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Db	4441	TGCGGACACAGGTTGGCCGTTACAGAGCTTGTCTGCGGGAAGAAACAGGGTGCAATGGCCAT	4500
Qy	3247	TACCTTAGCGGCAACATCGATCGATTCTGGCAACAGCAGCGGCGCAAGCGTGGACCGG	3306
Db	4501	TACGTTAAACGGGCGATAATCGTCAGTTTGGCAACAGCAAC---CGCAAGCCTGTAGCGG	4557
Qy	3307	CTGCGCGCGCGGCTGTTTCATCGCACACCGGGTTACTCTCTGCGCTGCGCGCTGCGCGCT	3366
Db	4558	ATTACGCGCGCGGCTGTTTCATCGCAACACCGGCTACTCTCTACCGCTGCGGCTGGGCT	4617
Qy	3367	AGCGAGTTGGTAGCAGCGCTGTGGCCACCGGATGCCCTCACGCTCAGCGCAACATATCGA	3426
Db	4618	GGCCGATCGTCTCAGCGCGCTGGATGTGTTACTCTCTCTCTGTTTCAACAGCATTTGC	4677
Qy	3427	ACGCTTTGCCGCTCAGCAGTGGCGGCAACAGCGATTTTTCGCTGCTGCTAAACCGCATGCT	3486
Db	4678	TCACCTTTGCCACAGCAACGTTGGCAGCAACAGGGGTTTTTCCGCACTGCTGAATCGCATGTT	4737
Qy	3487	GTTTTTGGCGGTAAAGCCGACAGCGCTGGCGGTGATGCAACAGTTTTTACCGGCTCGA	3546
Db	4738	GTTTTTAGCCGACCGGCGGCTGACGCTGGCGTGTGATGACAGGGTTTTCTATGGCTTACC	4797
Qy	3547	TGCGCGGTTAAATAGCGCTTTTACGCGCGGCAACTGCGCTGCGCGATAAACCGGAT	3606
Db	4798	CGAGGATTTGATTTGCCGCTTTTATGGGGAACCTCACCGTGACCGATCGGCTACGCAT	4857
Qy	3607	TCGTGTGGCAAGCGCGGCTGCCATCGGTGAAGCGCTGCGCGCTGTTGAATCTGT	3666
Db	4858	TCTGAGCGGCAAGCGCGCTTCCCGTTTTTCCGCGCAATTCAGGCAATTAATGACGACTCA	4917
Qy	3667	CGAACAGGGAAGAAAAATGAACGCACATTATGTGATTCGGCGAGGCTTTGGCGGCTG	3726
Db	4918	TCGTTGAAGAGCGACTACATGAACCACTACGGTAATTTGGTGGGCGCTTTGGTGCGCTG	4977
Qy	3727	CGCGTGGCATTCGCTGCAAGCGGCGGCGATACCAACCCCTTACTTCGAGCAGCGCAC	3786
Db	4978	GCATGGCAATTCGTTTACAGGCGCGCAGGTATTCTCTGTTTTGCTGCTTGAGCGCGCAC	5037
Qy	3787	AAACCGGCGGACCGCGCTATGTGTTGAGGACAGTGGCTTTACCTTCGATGCGGACCC	3846
Db	5038	AAGCGGGTGGCGGGCTTATGTATTACAGAGCAGGGCTTTACTTTGATGAGGCGCCT	5097
Qy	3847	ACGGTATACCGATCCAGCGCATCGAAGAGTTGTTCACGCTGGCAGGAAATCGCTC	3906
Db	5098	ACCGTTATACCGATCCAGCGCATTTGAAGAACTGTTGCTCTGGCGCGTAAACAGCTT	5157
Qy	3907	AGCGATTACGTTCGAGCTGATCGCGGTAAACGCCCTTCTATCCCTGTGCTGGGAAGATGGC	3966
Db	5158	AAGGATTACGTCGAGCTGTTGCGGTCACGCCGTTTTTATCCCTGTGCTGGGAGTCCGCG	5217
Qy	3967	AAACAGCTTGAATACGACAATAATCAGCCGCTGCTGAGCAGCAGATCGCAAGTTCAAT	4026
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Qy	4027	CCGCAAGATGTAGAAGGCTATCGTCAATTTCTTCGCTTATTCACGTGAAGTATTTAGAGAG	4086
Db	5278	CCGGCGATGTTGGGGTTATCGAGCGTTCCTTGACTATTTCGCTGCGGCTATTCAATGAG	5337
Qy	4087	GGTTATCTGAACCTCGGCAACGGTGCCGTTTCTGCAAGTGGGTGATGCTGCGCGTCCGCG	4146
Db	5338	GGCTATCTGAAGCTCGGCACTGTGCTTTTTTATCGTTTCAAGACATGCTTCGGGCGCGG	5397
Qy	4147	CCGAGTTGGACGCTCTGCAAGCATGGGCGAGCGCTCTACAGATGGTGGCGAATTTATT	4206
Db	5398	CCCCAGTTGGCAAGCTGCAAGGCATGGCGCAGCGTTTACAGTAAAGTTGGCGGCTACATT	5457
Qy	4207	CAGGACGATCATCTGCGTCAGGCGTTTTTCTTCCACTCATTTGCTGGTGGGCGGTAATCCT	4266
Db			
Db	5517	GAGGATGAGCATCTTTCGGCAGCGGCTTTTCTTTTCACTCGCTCTTCTAGTGGGGGGAATCCG	5517
Qy	4267	TTTGCAACGTCATCGATCTATACCTTAATTCTATGCGCTGGAGCGTGAAATGGGCGGTGTGG	4326
Db	5518	TTTGCAACCTCGTCCATTTTATACGCTGATTCAACGCTTAGAAACGGGAATGGGCGCTCTGG	5577
Qy	4327	TTTTCGCGCGGCGGCAACCGCGCGCTGGTGGAGGCGATCGCGCATGTTTCGAGGACTTGG	4386
Db	5578	TTTTCACAGCGGTGGAAACCGGTGCGCTGGTCAATGGCATGATCAAGCTGTTTCAGGATCTG	5637
Qy	4387	GGCGCGAGCTGTTACTGTAATGCCGAAGTAGCAGCTCGAAACCAAGCGCAATCGCATTT	4446
Db	5638	GGCGCGGAAGTCGTGCTTAACGCCCGGTCAGTCATATGAAACCGTTGGGCAACAAGATT	5697
Qy	4447	AGCGGGCTTCAGTTAGAGGGCGGACGACGCTTCGATGCCCGCGCTGTGGCCTCCAATGCC	4506
Db	5698	CAGGCGCTGAGTTGGAAGACGCGCAGCGTTTGAACACCTGCGCGTGGCGTCCGAACGCT	5757
Qy	4507	GACGTGTCATACCTACGACAAACCTGCTTCGCCCACTCCGCTGGCAATGAAACGTCGG	4566
Db	5758	GATGTTGTACATACCTATTCGCGATCTGCTGTCTCAGCATCCCGCAGCCGCTAAGCAGGCG	5817
Qy	4567	ACATCGCTGAAGCGTAAAGCGCATGAGCAACTCGCTGTTTGTACTCTATTTTGGCCTGAAAT	4626
Db	5818	AAAAAACTGCAATCCAAAGCTATAGTAACCTCACTGTTTGTACTCTATTTTGGTCTCAAC	5877
Qy	4627	CAGCGCATGAACAGCTCGGCGACACACGCTGTTTGGCCCGGCTTATCGTGAGTTG	4686
Db	5878	CATCATCAGCATCAACTCGCCCATCATACGCTGTTTGGGCGCACGCTACCGTGAACTG	5937
Qy	4687	ATCGATGAGATTTTCAACAGCAGCAGCTGGCAGACGATTTTTCATCTTACCTGCAACGCG	4746
Db	5938	ATTACAGAAATTTTAAACATGATGTCGTGCTGAGGATTTTTCGCTTATTTTACACGCA	5997
Qy	4747	CCCTGACGACGAGATCCGCTGCTGGCAACGCCCGCTGCGGACGCTTTTATGTTGTTAGCG	4806
Db	5998	CTTGTGTACGAGTCCGTCACCTGCGCACCGAAGGGTGGCGAGCTATTATGTCGTGGCG	6057
Qy	4807	CCGTCGCGGATCTCGGCAACGCTGACATCGACTGCAACAGGAAGGACCGGCTTGGCGC	4866
Db	6058	CTGTTTCCACACTTAGGCAACCGCAACCTCGACTGGCGCGGTAGAAAGACCCCGACTGCGC	6117
Qy	4867	GATCGAATTTTGTCTTATCTGGAGCAGCACTACATCGCGGATTTAGCTCAGCAATTAGTG	4926
Db	6118	GATCGTATTTTGTACTACCTTGGAGCAACATTAATGCTGTGGCTTGGAAAGCCAGTTGGTG	6177
Qy	4927	ACACACAGAATGTTTACGCCGTTTGTATTTTCGCGACACGCTGATGCCATACCGGCTCG	4986
Db	6178	ACGCAACGATGTTTACGCCGTTTCGATTTCCGCGACGAGCTCAATGCTGGCAAGGTTTCG	6237
Qy	4987	GCCTTTTCGCTGAGCGGATTTTGAACGAAAGCGCTGTTTCCGCCGCGATTAACCGCGAT	5046
Db	6238	GCCTTCTCGGTTGAACCTATTCTGACCCAGAGCGCTGTTTCCGACACATAACCCGCGAT	6297
Qy	5047	GCCGATATCAGCAATCTCTATCTGGTGGTGGCTGCGTACGATCCAGCGCGGCGTCCCG	5106
Db	6298	AAGCATTGATTAATCTTTATCTGGTGGCGCAGGCAACCCATCTGCGCGGCGGATTTCC	6357
Qy	5107	GGCGTATCGGTTTCGCGCAAGGCCACCGCAGGCTGATGCTGAGGATTCGCGCGGATGA	5166
Db	6358	GGCGTAATCGCTCGCGAAGGCGACGCGCAGGCTTAATGCTGGAGGACCTGATTTGACGA	6417
Qy	5167	ATCGACAGCCTTTACTTGGACCAAGTAACGCAAAACCATGGGCTGGGCTCGAAGGTTTCG	5226
Db	6418	AT---ACGTCATTACTGAAATCATGCCGTGCAAAACCATGGCGGTTGGCTCGAAAGCTTTG	6474
Qy	5227	CCACCGCGCAAGCTGTTTGTATGTCACCGACCGCGCGCAGCAGCTGATCTGTATCGCT	5286
Db	6475	CGACTGATCGACGCTTTTTCGACCCCAAAACCCGCTCGCAGCGTCTGATGCTTTACGAT	6534
Qy	5287	GGTGTCTCTACTCGCATGATGATGATGATGGGCAAAACGCTGGGCGAAGGCGGCAACGAGC	5346
Db	6535	GGTGGCGCACTGCGACGAGCTATTGACGATCAAAACACTGGGCTTTTCATGCGCACGACG	6594

QY 5347 ATGCGTTCGAGACGCGCAGCAGTATGAGCATCTGCAAAATGAAACCGCGCGCT 5406
Db 6595 CCTTTTCGAGATGCTGAGCAGCGCTGAGCAGCTTGAATGAATAACGGTCAAGCT 6654
QY 5407 ACAGCGCGGCGACATGATGAACCGCGCTTTAGGCGTTTCAGGAAGTGGCGATATTC 5466
Db 6655 ACAGCGGTTTCGCAATTCAGCAGCGCTTTTTCGCGGTTTCAGGAGGTGCGATGCGC 6714
QY 5467 ACCAGCTGCGCAGCAACTGCGCTTTGATCATCTGGAAGCTTCGCTATGATGACGCA 5526
Db 6715 ATGATATCGCTCCCGCTACGCGTTGACCATCTGGAAGGTTTTCGCTATGATGTCGCG 6774
QY 5527 ACGAACATTACGCGAGCTTCGATGACACGCTGCGCTTACTGCTATCAGCTGCGGCGCTGG 5586
Db 6775 AAACGCGCTACCTGACACTGACATGAGCTGCTGCTTATGCTATCATGCTGCGGCTGG 6834
QY 5587 TCGGTTTGTATGATGCGCGCGGTAAATGGGCTGCGCGACGAGCGGTGCTCGATCACGCT 5646
Db 6835 TGGGCTGTATGATGCGCGCAAAATATGCGGCTTCGCGATAACGCCACGCTCGATCGCGCT 6894
QY 5647 GCGATTTAGACTGCGGCTTCAGCTCACTAACATTTGCGCGGACATTTAGAGATCGG 5706
Db 6895 GCGATCTCGGCTGCGCTTTTCAGTTGACCAACATTTGCGCGGTATTTGTGACGATGCTC 6954
QY 5707 AAAATGCTGCTGCTATCTGCGCAATCTTGGCTCGATCAGCGGCGATTTACGCGCGATA 5766
Db 6955 AGTGGGCGCTGTTATCTGCTGAAAGCTGCTGGAAGGAAGGACTGACGAAAGCA 7014
QY 5767 CGCTGACTGACCGCAACATCTGTCAGCGCTGCGCTCACTGGCAGCGGTTTATGTCGG 5826
Db 7015 ATTATGCTGCGCAGAAACCGGCGAGCTTTAAGCGGTATCGCGGCGGACTGTTACGG 7074
QY 5827 AGCGGAACTTATCATCTCGCGCGATCGCGTTTACGGGTTTACCGCTGCGCTCGG 5886
Db 7075 AAGCGGAACCTTATACGTATCATCAATGCGCGCTGTCGACACATTAACCTTACGCTCG 7134
QY 5887 CGTGGGCAATCGCTACCGCTCGCGGCTTTATCGGAAATTTGGGCTCAAAAGTTCAAGC 5946
Db 7135 CTGCGGCAATCGGACAGCAGCAGCTGCTACCGTAAATTTGGTGGAAGTTGAACAG 7194
QY 5947 CGGTTGTCAGCGCTGGGATTCAGCGCAGCGCACAGTAAAGTTGAAAACTGCGCTGC 6006
Db 7195 CCGTAAAGCGGCTGGGATCATCGCAGTCCACGTCACCGCGGAAAAATTAACGCTTT 7254
QY 6007 TGGTAAAGGGCAGGTTTGGGATCACTTCGCTGTGTCTGCTCTGAACCGGCTCGG 6066
Db 7255 TGCTGACGGATCGGTCAGGCGATTTCTCCGCGATGAAGACGTATCCACCGGCTCTG 7314
QY 6067 CTGCTCTGTCAGCGCTCTGTTGATTTTACGTTCGCTGACGCTGCGCGAGCGTGGCTG 6126
Db 7315 CTATCTCTGCGAGCGCC-----GATCTAGCGGATGCTTTCTCTAGCGTGGCTG 7368
QY 6127 CAGCTTATCAGCGGTGCGCGTAGAGAAACCAACACGACGAGCTTTCAACCGCGCG 6186
Db 7369 AAGTTTAGATAACCGTGGCGGTACAGAAACCAAGGAACGCGAGCGCTTTTCCCT 7428
QY 6187 CACGCAATGATGCTGGCGGTGCGCATGATTAAGCGCTTAAGTAGGCTTTGCGCGGAT 6246
Db 7429 TACAGCATGATGATGAGGTGGGCGATGATTAACCGTTTCAAGTAGGCTTTGCGCGGAT 7488
QY 6247 ATAGCGAAACGCGCGGTTGATGACACCGCGCATCTGACCATGAAGTAGAGCGCGC 6306
Db 7489 GTAGCGAAACGCGCGGCTGGTGTACAGTCTGCTGGACCAATAAAATACAGTAAC 7548
QY 6307 GTAGCTGCTCACTCCGCGACCAATTCACCTGAGCGGCGACATGCTTTGACACCGCATA 6366
Db 7549 ATAAGCGGTGATGCTGACCAATTCACCTGAGCGGCGCAGATTTCTGTACTGCGGAAGTA 7608
QY 6367 AATCAGCAATGCGCGATGCGCGCAACCAACCAACCGCATTAAGATCGTTGAGCTCAAACTT 6426
Db 7609 AATCAGGCAATGACCAATGCGCAATACCAACCGCATAGAGATCGTTAACTTCAATGCG 7668

QY 6427 ACCGCTGTGCGGTTTCATGTCGACAGATGCGCAGCCCATCCCAACCGTCATGATGA 6486
Db 7669 GCCTTTACGCGGTTTCATGATGTGAAGATGCGCAGCCCAACCCAGCGTGCATGATGA 7728
QY 6487 TTTATGCGCAGCGCGCTAGATTTCCATCATCACACACGTTGCCAACAGATAGCAC 6546
Db 7729 TTTATGTCGAGTGCAGCAACCACTTCCATGTCGACCAACCGTGAACAAACGATCAGGC 7788
QY 6547 GTTCCATAACGAGCAATTTCTGCTCA 6574
Db 7789 ATTCCAAATCCACACATAATTTCTCA 7816

RESULT 10
US-10-810-733-20
; Sequence 20, Application US/10810733
; Publication No. US20050014219A1
; GENERAL INFORMATION:
; APPLICANT: E.I. du Pont de Nemours and Co., Inc.
; APPLICANT: Cheng, Qiong
; APPLICANT: Tao, Luan
; APPLICANT: Sedkova, Natalia
; TITLE OF INVENTION: GENES ENCODING CAROTENOID COMPOUNDS
; FILE REFERENCE: CL2385 US NA
; CURRENT APPLICATION NUMBER: US/10/810,733
; PRIOR FILING DATE: 2004-03-26
; PRIOR APPLICATION NUMBER: US 60/488,183
; PRIOR FILING DATE: 2003-07-17
; PRIOR APPLICATION NUMBER: US 60/527,083
; PRIOR FILING DATE: 2003-12-03
; NUMBER OF SEQ ID NOS: 22
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 20
; LENGTH: 9127
; TYPE: DNA
; ORGANISM: Pantoea stewartii DC413
US-10-810-733-20

Query Match 36.2%; Score 2533.4; DB 8; Length 9127;
Best Local Similarity 67.6%; Pred. No. 0;
Matches 3636; Conservative 0; Mismatches 1726; Indels 17; Gaps 5;

QY 1198 CTGTTTAAATCAACAGCTAGCGATATTCACTGAGCGCGCTCAGCGGTCGGCCACTTTG 1257
Db 3699 CTGCGCAGCTGCGCTTGGCGCGCTGCATCGCGCGGAGAAACGCTATGAGCCATTTCG 3758
QY 1258 CGGTGATTCGCGCGCGCTCTACAGCACATTTTCAAGCGTTGAGCGCTTACGACAAACGC 1317
Db 3759 CCGGATCGCCCTCCCTTTTACAGCACATGTCGCGCGCTTTCAGGCGCTGCGCGAGAGCC 3818
QY 1318 TGCTGGCGCGCGCATCGCATCACATTCATCCAGCAAGCGATGCGCGCACTTTGCTTA 1377
Db 3819 TGATAGCGCGCGCATCGGTCACCTTTATTACAGAGCGGAGGTTGCGACCTTGCTCA 3878
QY 1378 GCGACGAACCATCGATTTTGTTCGCTCGGCGCAACAGAGCATCTTCGCGTTTCGCTGG 1437
Db 3879 GCGAGCGGCTATCGGCTTTTCAAGCATCGGCTGGAAGCATCTTGTGCGACGCTCG 3938
QY 1438 CGCGCGGTTCATCGGCTGCGCTTCGCGCGCGCGCTGTCGCTGTTTCGCTGATGACGAC 1497
Db 3939 ACCGTACGCTGCGCTGCGCGCGCATCCGCGCGCTTTCGCGCATTCGCGCTGATCGCGC 3998
QY 1498 ATCTCGGCTCTGACCGATATGCTGCGCGCAACGCTGCGGCTACTGAAAGCATTTGA 1557
Db 3999 ATATGCGCAGCAGCAGCATGATGCTGTCGCGAGCTGCGGAGGCGCTGCGGCGCTGG 4058
QY 1558 ACATCATGCGCTGATCGCGCAAAATGGAAGCGCGCGGCGGATTCGCTCGCTGAAGCGC 1617
Db 4059 CGGTAGATGCGGTGATGCTGATCAGATGCGGCAACGCGGCGGCTGCTGCGGAGGCGC 4118
QY 1618 TGCATCTCGGTTTGTTCGCTGCGCTTCGCGCTTCGCGCTCAATTCGTGAAGCGGAGTTC 1677
Db 4119 TCGCGCTGCGCTTCTGTTTCGCTGCGCTTCGCGCTCAATTCGTGAAGCGGAGTTC 4178

QY 1678 CGCTTGGGTGATGCCCTTCCGTTTTCACAGGATGACAAAGCGCTGAACAGTTTTCAGG 1737
Db 4179 CATTTCCGGTTCATGCGCTTTTGTGGGGTACTAGCAGCGCGCGCGAGCGGTTCGCGT 4238
QY 1738 CCAGCAGCATATCTATGATCGCATCATGCGTGGTACACGCGGACGATGATCCTCAAAACAG 1797
Db 4239 CCAGCGAAAAATTTATGATGCTGATGCGGACACCATGCGGTGCTGGCGGCGCATG 4298
QY 1798 CGCGGGGTTTAATTTGAACGAGCGGCGCGGATTAATCATAGTGCTGTGCGCTGGCAC 1857
Db 4299 CCAGCGCTTTGGCGCTTGGCGACCGCGCTCAGCGCACAGTGCTGTGCGCGCTGGCG 4358
QY 1858 AATATGACAGATGTTGCGCGCTTTGATTTTCCAGTACAGCACTGCCCGCTGTATC 1917
Db 4359 AATATGACAGTGTGCGGACGCGCTTGTGCTTCCGCGCGGAGCTGCCGCGCATTTCC 4418
QY 1918 ACGCCGTGGGGCACTCCGCGCCCGGTTTCTCTGCGCCGCTCCATGCGCCCTGGCCAG 1977
Db 4419 ACGCCACCGCGCTGGCGAACCAGCCCGCGCTGCCGACGCG---CGCTGTTGATGA 4475
QY 1978 CGCTGCGTACGCGGTGTTTATGCTGCTGGGTAGCTGCAAGGCCATCGCTTCCGGC 2037
Db 4476 ACCGCGGCCAGCGCGCATTTTCCGCTCGCTCGGCACTGCGGCGGCGCGCTTACCGGC 4535
QY 2038 TGTGTTCTGATCTGGCGGAGCGTGGCGGCTGCGGCTATCGCTGGTATCGCCATT 2097
Db 4536 TGTGTTAAACGCTGGCAAAAGCTTGGCGGAACTGGCGGAGCTGCTGATCGCCACT 4595
QY 2098 GTGGGGATTTAAACGGCGCAACAGCATCAGCTGGAGCTCGCTGGCGCGCGTGGGTGA 2157
Db 4596 GCGCGGCTGAGCGATTTTACGGCGGTAACTGCTGCGCGCGGCGGCGCAGGTAG 4655
QY 2158 CGGATTTGCTGATACGCGGAGCGGCTTACAGCAACGCGGAGCTGTTTATCACTCATGCCG 2217
Db 4656 CCGCTTTGCTCAATCAGCGCGCGCTGGCGCAGCGGAGCTGGCCATTTACCAACGCGC 4715
QY 2218 GGTAAACGCGCTGGAAGCACTGGATGCGGTACCGGATCGGCGCTGCGCTGCGATTG 2277
Db 4716 GCTTAAATACGGTGTGAGCGCGTAACCTATGGCAGCGCGCTGCTGGCGATTTCGCTGG 4775
QY 2278 CTTTGTATCAGCGCGGCTGGCGCGCGCATGAGTGGCATGAGTGGTGGCGCGCGCAT 2337
Db 4776 CATTTGATCAGCGCGCATTTGCGCGCGCTGGCGACCATGCTGGGGATGCGCGGT 4835
QY 2338 CAGCTTTAGCGTTCATCACTAGGAGCATCTGCAACAGCTGCTGACCGACGATC 2397
Db 4836 CCGCGCTTCTCACACAGCCATCAGATTGCGCGTGGCGCTGCTGCGCATGCTGCGAGTGGTG 4895
QY 2398 GTTACGCGCTPACGGATGTACAGATTACGCGCAGCTGACGCGCAGGCGTTTGCAGC 2457
Db 4896 CGGTTAAGCAGCGCATGACCGGCTGACCGCGCAGCTGGCGCGCTGGCGCGGCTGAGC 4955
QY 2458 GTGCGCGGACATCGTGCAGAGCGCTGTGCGAGCAGCAAGTCTGCTGGCGAGGCGCA 2517
Db 4956 GCGCGGCTGAGATTACGAGCGCGCTGTGAGCGCGCAGCGCGTGGCGCGGAGAGT 5015
QY 2518 CTTGATGCGCAACGCAATACGATGTGATTTTGGTGGTGTGGAATGCTGGCAATGGCTTGTAT 2577
Db 5016 ACT-ATGACATCGCATGATGATGCTGTGTTGCTGGCGCGCGTCTGGCGAAACGGGCTGT 5074
QY 2578 TGGCGTGGCTGCTGGTCAATTTGAGCGCACCACTGMAATGCTGTTGCTGGAGAGCGATGC 2637
Db 5075 GCGCTGCGGCTGAAAGCGCTCAGCGCGAGCTGCGGCTGCTGGTCTTGTATGCCACGCG 5134
QY 2638 GCATCGCGGAGCAATCATACCTGGTGGTTCATACAGCGATCTCAGCGCGCAACAACT 2697
Db 5135 CCAGCGCGTGGCAATCACACCTGGTCTTTCAGGAGAGATCTCAGCGCGCGGAGCA 5194
QY 2698 TCGCTGCTGCAACCGGTGATTAACGCTGCGTGGTTCAGGTATCAGGTGGTGGTTCCTGCG 2757
Db 5195 TCAGTGGATTGGCCCGCTGGTGGCGCACCGCTGGCGGCACTACGAGGTACGCTTTCGCGC 5254

QY 2758 GCTGCGCGCACTCTGACGGGGATTAATGTTCCATCGCATCAGGCGATTTTGC CGCCCA 2817
Db 5255 GCTGACGCGCGAGCTTAACAGCGGCTATTTTTCGTCATCTCCGCGGCTTTGACGAGGT 5314
QY 2818 TCTTTTACGGCGGCGATGGGTGACGATCTGTGGGACAAACACAGCCGT7ACAAACAGGTAAAC 2877
Db 5315 GCTGCGCGGAGCGCTCGGCGAGCGCTGCGGCTTAACAGACCGTCCGCGAGAGCGGCC 5374
QY 2878 CAGCAGGTGACCGCTGGCGGATGGCGGTGAACTTGTCTGGCAAGTGGTGTATGATGTCG 2937
Db 5375 CGATCACTGTCGATCGCCAGCGGAGTGTGCGCGCGCGCGCTCATTTGACGCGCG 5434
QY 2938 CGGCGCTGACGCGACGCCACATCTGACGTGGGTATCAGGTGTTTCTTTCGACAAAGAGTG 2997
Db 5435 CGGCTATACGCCGAGCGCGCGCTGCAGATTGGCTTTTCACTTTTGTCCGTGAGGAGTG 5494
QY 2998 GCAGCTGGCGGACGCCACCGCTGACGAGCGGATCTCTGATGGATGCCACCGTGCATCA 3057
Db 5495 GCGCGCTGAGCCAGCGCATCAGCTGGAGGGCGCGATTCTGATGACGCGCGCTGGATCA 5554
QY 3058 GCAAGCGGGTATCGTTTGTCTACAGCTGCGCTCAGCGCGGATCGGCTATGATGTA 3117
Db 5555 GCAGGGGGGTATCGCTTGTCTATACCTGCGCTCTCGCCGACGCGTCTGCTGATGTA 5614
QY 3118 AGATACCCATTAAGTTAAACAGCCGCGCTGGCGGAGAACACCGCTGTCAGCACATCGC 3177
Db 5615 AGATACCCACTATTAACGACCGCTCGCTGGCGAGCGCGCGGCGGAGGATATCTG 5674
QY 3178 CGACTATGCGCAATCAGCAAGGCTGGAGCTGAGTACGCTGCTGCTGTAAGAGACAGCGCAT 3237
Db 5675 CGACTACGCCACCGCGCGGCTGGAGCTGGAGACGCTGCTGCGCGAGAGCGCGCGC 5734
QY 3238 ATTACCGATTACCTGAGCGGCAACATCGATCGATTCTGCGCAACAGCAGCGCGCGCAAGC 3297
Db 5735 GCTGCGGATTAACGCTGGCGGCGATTTTCGACCGCTTCTGGCATCATC-----GCGGCC 5788
QY 3298 GTGACGCGCTGCGCGCGCGGCTGTTTCACTGACCAACCGGTTACTCTTTCGCTGCGTCCG 3357
Db 5789 CTGCGTGGCGCTGCGCGCGGCGCTTTTTCACCCACAGACCGGCTACTCTCCGCTGGCGTGGC 5848
QY 3358 CGTGGCGCTAGCGAGTGGTAGCAGCGCTGTTTGGCCACCGATGCCCTCACGCTCAGGCCA 3417
Db 5849 GCGACGCTGGCGGACGCGCTCGCCGACAGAGCGGACTTCTCCCTGAGGCGCTCGCGCC 5908
QY 3418 ACATATCGAACGCTTTGCGCGTCAGCAGTGGCGGCAACAGCGATTTTTCGCTGCTGATAA 3477
Db 5909 GCGTATTCACCGCTTTGCGCAGCGAGCGTGGCGTAAACAGGGCTTTTTCGCGATGCTTAA 5968
QY 3478 CCGCATGCTGTTTTCGCGCGTAAAGCGCAGCAGCGCTGGCGGTGATGCAACGTTTAA 3537
Db 5969 CCGCATGCTGTTCTGCGCGCGAGGCGGATCGGCGCTGGCGGTAAATGACGCGCTTTTA 6028
QY 3538 CCGGCTCGATGCGGGTTAAATTAGCGCTTTTACGCGCGGCAACTGCGCTGCGCGATAA 3597
Db 6029 CCGGCTGCGCGAGGGGCTGATCGCCCGTTCGCGCGGAGCGCTGACGCTGGCGCGACCG 6088
QY 3598 AACCGGATTTCTGTGGGCAAGCGCGGTCGCCCATCGGTGAAAGCGCTGCGCGGCTGTT 3657
Db 6089 CCGCGCATTTCTAGCGGCAAGCGCGGCTCCCGGTGCTGGCGCGGCTGAGGCTATCT 6148
QY 3658 GA---ATTCTGTCGAACACAGGGAAGAAATAACAGCATTTATGTTGTTGGCGGAGGC 3714
Db 6149 CACCCACCTTCTGGACGAGAGCATCAAGATGAGCAGCAACAGGTAATTTGGCGAGGA 6208
QY 3715 TTTGGCGGCTGCGCTGCGGATTCGCTGCAAGCGCGCGGCAATACCAACCATCTTACTC 3774
Db 6209 TTTGGCGGCTGCGCTGCGCAATTCGCTCCAGCAGCAGCGCTTCCAAACGCGCTGCTG 6268
QY 3775 GAGCAGCGGCAAAACCGGCGGACGCGCTATGTTGTTGAGGACAGTGGCTTTACCTTC 3834
Db 6269 GAGCAGCGGCAAAACCGGCGGCGCGCTATGTTTATCAGGATCAGGCTTTACCTTT 6328
QY 3835 GATGCGGACCCACGCGTGTATCACCGATCCAGCGGCTATCGAAGAGTGTGTTTCAGCTGGCA 3894

[illegible]

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DB 8545 CGCGCGTCTCGCGAGCTCTGCGAGCGTCCGGTTAGGCGGAGCGTCCGTGACGCTGACG 8604
QY 6115 CAGCGTGGCTTGAGCTGATTTACGCGGTGGCGGTAGAGGAAACCAACGACACGAGCC 6174
DB 8605 CAGCGTGGCTGATTTTCCAGCGCGCGGCGGATAGAGGAAACCGAGGAGCGAGTC 8664
QY 6175 TTACGCGCGCGACCGCATGATGCGTGGCGCATGATATAAGCGCTTAAAGATAGCC 6234
DB 8665 TTCCGCGCGCGACCGCATGATGCGTGGCGCATGATATAAGATAGCC 8724
QY 6235 TTTGGCGGGATATAGCGGAACCGCGCGGCGGATGACACAGCGCATCTGCGACCATGAA 6294
DB 8725 GCGACCGGTATGATCTTAAAGGCGCGAGCGTGTGTACGAGCGCGTCATGCGCAATAAA 8784
QY 6295 GTAGAGCGCGGTGATGCTGCTTCCGCGACCAATCCACTGCGAGCGCGCACATGCTTG 6354
DB 8785 ATAGAGCGCGGTAAAGGTGATGCTGCGCTATCTCATGTAGCGCGCGAGCGCGG 8844
QY 6355 CACACCGACATAATCAGCAATCGCCAGTACCGCAACACCAACCGCATATAAGATCGTT 6414
DB 8845 GCTGCCAGGTAGATCAACAGATCGCCAGCGCGAAACACACAGCATAGAGATCGTT 8904
QY 6415 GAGCTAACTTACCGTGTGCGGTTCATGTTGGGACAGATGCGAGCGCGCATCCCGAAC 6474
DB 8905 CACTTAAACAGCGCGTGTGCGGTTCATGATGCGACCGGTGCGAGCGCGCATCCCGAGC 8964
QY 6475 GTGCATGATGATTTATGCGACAGCGCGGTACGATTTCCATCACCACCGTGTGCAA 6534
DB 8965 GTGCATATATATTTATGCGACAGCGCGGTGATTTCCATCTGCTAGCAGCGTCAGTAA 9024
QY 6535 CAAGATAAGCAGCTTCCATAACAGAGCATTTGTTGTC 6573
DB 9025 TAGATCCAGCATTCACAAACACACAGCATATCTTCTCC 9063

RESULT 11

US-10-808-807-18
; Sequence 18, Application US/10808807
; Publication No. US20040253663A1
; GENERAL INFORMATION:
; APPLICANT: E.I. du Pont de Nemours and Co., Inc.
; APPLICANT: Cheng, Qiong
; APPLICANT: Tao, Luan
; APPLICANT: Sedkova, Natalia
; TITLE OF INVENTION: GENES ENCODING CAROTENOID COMPOUNDS
; FILE REFERENCE: CL2365 US NA
; CURRENT APPLICATION NUMBER: US/10/808,807
; PRIOR FILING DATE: 2004-03-24
; PRIOR APPLICATION NUMBER: US 60/477,874
; PRIOR FILING DATE: 2003-06-12
; PRIOR APPLICATION NUMBER: US 60/527,083
; PRIOR FILING DATE: 2003-12-03
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 18
; LENGTH: 8814
; TYPE: DNA
; ORGANISM: Pantoea agglomerans strain DC404
US-10-808-807-18

Query Match 30.6%; Score 2138.6; DB 8; Length 8814;
Best Local Similarity 60.7%; Pred. No. 0;
Matches 3811; Conservative 0; Mismatches 2279; Indels 185; Gaps 12;
QY 309 ACCATGATAGCCATTATGACCAACCCATGTGACACACACAGCATCAGACAAAGCAACT 368
DB 2384 ACGCCGGGTACCAACCATGACAAACCCCTTTGAAACACATCCCGGTACAGCGGGAACT 2443
QY 369 CCTTCAGCTGACGCAAAATTTTACAGGCGCATCTTGAACATTTACTGCTGCGCGACAGCA 428

DB 2444 GCATGAGCTGCACGCTGCCCTGCAAGCTGCCCTGGATGAACCTGCTGCCCTTGGCGATGA 2503
QY 429 AAGCGATTCGCGTGCCTGCGGATGCGTCCGGAACGCTGGCGCAGGGAACGTAATTCG 488
DB 2504 GCGGATTCGCGTGCAGCAGCGCAATGCGCAAGCGGTACTGGCACCAGGGAACGCAATTCG 2563
QY 489 TCTCTTATTTACTGCTGCGCAGCGCGCATATGGGTTCGGAGCTGACGCAAAATGGCGT 548
DB 2564 CCGCTGCTCTGATCTCTCGCGCGCGCATCTCGCTGCGATCGGACACACCCCGCCT 2623
QY 549 TCTCGATCTCGCTGTCAGTGAATGCTGACGCGGATCGCTGATTTCTGATGACAT 608
DB 2624 GCTGATATGGCTGTCGCTGGAATGCTGACGCGCTGTCGCTGATCTCTGACGATAT 2683
QY 609 TCCCTCGATGATTAACGCGCAGATGCGTGTGTCCTACCGTGCATCGCGAAATTTGG 668
DB 2684 TCCCTCGATGATTAACGCGCGCTCCGCGCGGTCCCTTACCATTTCATCGCCAGTATGG 2743
QY 669 TGAAGACGTGGCGATTTCTCGCGCATCGCGCTTACCGCGCATTTTGAAGTGAATGC 728
DB 2744 TGAAGACGTGGCGATTTCTCGCTGCGTGTGCTCAGAGCGCTTTTGGCGTATGGT 2803
QY 729 CATTCACCGCGTTTTCCTGCGCATACATAAATCTGAAGCGATTGCTGAACTCTCCGCTGC 788
DB 2804 CGCGCGCAGGATTTCTCTCCGAGTGCCGACGCGGTGCGGAGCTGTCGATGCG 2863
QY 789 CGTTCGCTGCGAGGCTTAGTGAAGGCAATTTCCAGGATCTGACGACGCGCAGCAGAG 848
DB 2864 GGTTCGCTGCGAGGCTTAGTGAAGGCAATTTCCAGGATCTGCGTGAAGGCAACCGCCC 2923
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DB 2924 GCGCGCGGAGGATCGCCACCAACCAAGCACTGAAACACGAGCTGCTGTTTTCGTC 2983
QY 909 CACGCTGCAAAATGCGCGCGATTGCTGCGCTGACGCTTCCACGCGAGTGGCGCAAGACTTAG 968
DB 2984 CACGCTGCAAAATGCGCGCGCTTGGCGGAGCGGCTTCCGCGCGCGCGCGCAGAAATGCG 3043
QY 969 CTTCTTCGCGCGAGATTTGGCGCAGGCTTAACTGCTGCGACGCTCCCGACGCTTG 1028
DB 3044 CTGCTTTGCGCAGGATTTAGCGCAGGCTTCCAGCTGCTGCGACGATCTGCGCGACGCGCA 3103
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DB 3104 TCGCGGACCGGCAAAAGACATCAATAGGACGCGGTAGTCCACGCTGTTGGGATGCT 3163
QY 1089 CGGTGCTGACGCGCGGAAACGTCCTGCGCGATCACCTGCGCAGCGCAGATGACACCT 1148
DB 3164 CGGACGCGCGGTGCGGAGCGGCTCGACACCCATCTGCGCGCGCAGCAGCGCCATTT 3223
QY 1149 TGCCTGCGCTGCGCGGATTCGCGCATCTGCCAATATATGACGCGCTGTTTAAATCA 1208
DB 3224 TTCACGCGCTGCGGAAAAAACCGAGCCACCGACGCTTTATGACGCGCTTGTTCATAA 3283
QY 1209 ACAGCTAGCGATTTCACTGAGCGCGCTCAGCGGTGGCGCACTTTGCGGTGATCGCG 1268
DB 3284 ACAGCTGCGCGCTTTAGCTGAGCAACCGGATACACCCCGGTAATATTTTGGAGATCACA 3343
QY 1269 CCGCGCTCTACAGCCACTTTTTCAGCGGTTTTCAGGCGGTTCAGCAAAACGCTGCTGGCGCGC 1328
DB 3344 T-----GA 3346
QY 1329 GGCATTCGATCATTTTCATCCAGCAAGCGATGCGCGCACTTTGCTTACGAGCAACGC 1388
DB 3347 AGGACGCGCATCTGGTTTACGCTGTAATAATGACCACTGGATATCGTCTGCACCCCTGACC 3406
QY 1389 ATCGATTTTGTGCGTGGCGCAACAGACGATCTTCCGCTGCTGCGTGGCGCGCGCTGTG 1448
DB 3407 GGGGATGATGATTCATTCGACCGGATTTGACGCGCTGGCTTTTGAACATGCTG----- 3459
QY 1449 CATCGCTGCGCTGCGCGCGCGCTGTGCTGCTGTTTTCGCGGTATTCGACGATCTCGCTCC 1508
DB 3460 -----GCCCTCCGCGAGCTGGATCTCGACGATCGATCTCTCCACC 3501

Qy	1509	TGCACCGATATGCTGTCGCGGAACCTGCTCGGTACTGAAAGCAITTTGAACATCGATGGC	1568
Db	3502	ACCCTGTTTCCCGCCCGCTGAAAGCCCGGTGCTGATCACTCCATGACCGCGCGCGCG	3561
Qy	1569	GTGATCGCGGACGAAATGGAAGCGCGCGGCGGATTTGGTCTGAAGCGCTGCAATCTCCG	1628
Db	3562	GCGCGCGGACGAGACATTAACCGTCACTTGGCCACGAGCGGCGGCAAAACCTTTGGCTGGCG	3621
Qy	1629	TTTGTTCGCTGCGCTCGCCCTTCCCGGTCAATCGTGAAGCCGGATTCGCTTTGCGGTG	1688
Db	3622	ATGGCGTTCGCTTCCAGCGCTGCGCTGAGGACGCGCGGACGCGGCTGATGCC	3681
Qy	1689	ATGCCCTTCGTTTGTACAGGATGACAAAGCGCTGAAAGCTTTTTCAGGCCAGCAGCGAT	1748
Db	3682	CAGCTACGCCATATCGCCCGGAGCTGCGCTGCTG-----GCT	3720
Qy	1749	ATCTATGATCGCATCATGCTGCTGACGCGGACGTGATCTCAAAACACGCGCGCGGCTTT	1808
Db	3721	AACCTTGGCGGCGGAGATCCCGGTGCGGAGGGCTGAGTACGCCGCGCGCGCGGTG	3780
Qy	1809	AAATTGACGAGCGCGCGGATTAATCAGTGCCTGTCGCGCTGCGACAAATCAGCCAG	1868
Db	3781	GACATGATCGACCGGACGCGTAAATTGTGCTATCTGAACCGCTG-----CAG	3828
Qy	1869	ATGTGCGCGCTTTGATTTTTCACGTGACAGCAATGCGCGCTGCTATCAGCGCGTGGG	1928
Db	3829	GAGCGCTCCAGGCGCGCGGATCGGCACTGGCGCGGCATCTCAACGCGCATTTGCGCAG	3888
Qy	1929	CCACTCGCGCGCGCTTCTCTGCGCGCTCCATGCGCCCTGGCCAGCGCTGCTCAG	1988
Db	3889	CTGTGCGCGACCTCGCCGATACCGGTGGTGTAAAGAG--GTGGCGCGCGGATCTCCC	3946
Qy	1989	CCGCTGTTATGCTCTCGCTGGGTACGCTGCAAGGCCATCGCTTCCGCTGTTTCTGCAT	2048
Db	3947	CGGAGCTTGCTGCGACTGCGGACGTGCGGCTGGCGATGATCGACATTTG-----	3997
Qy	2049	CTGCGCAGGCGTCCGCGACGTGCGGTATCGCTGTGTGATTCGCCCATTTTGGGGGATTA	2108
Db	3998	CGGCGCGGCGGAAACAGCTGGCGCGCGGTGGAAGCTGAACGCGCGCCG-----	4047
Qy	2109	AACGCCGACAGACGATCAGCTGAGCTGCTGGCGCGCGGTGGGTGACGGATTTGCTC	2168
Db	4048	---ACCCCGAGGCGGAAATGTGGCGATGCGCTTTGCCGACTGCGGCAATTCCTACTGCC	4104
Qy	2169	GATCAGCGCGAGCGCTACAGCAGCGCAGCTGTTTATCACTCATGTCGGGTAAACAGC	2228
Db	4105	GATCGCTGCTGCTGCTCCATCTTGGCTGCTGATATCCGCTTATCGCTTCGCGCGC	4164
Qy	2229	GCGCTGGAAGCACTGGAATCGGCTACGCCGATGCTGCGCTGCGGATTTGCTTTGATCAG	2288
Db	4165	ATGCCAAAGGCAATGACGACGAA-----AAGCCATGCGCTGCGGTGACAGATCTG	4215
Qy	2289	CCGGCTGGCGGCGCGCATTTAGTGGATGACGTTGGTCCCGCGCATACAGCTTTAGC	2348
Db	4216	GTGGCGCAGGCGCGCGGCGGTGCTGGCGATGCCAACCGCTCCGCGCAGCGGCAATTTGCC	4275
Qy	2349	CGTCTTCATCAACTGGAGCAGCATCTGCAACAGCTGTGACCGACGATCGTTACGCGCTA	2408
Db	4276	CAITTCGCAACCTTGAATTAAGCAGCTG-----GATCGCTGTTTCTGTACCGGCGAG	4328
Qy	2409	CGGATGTACGCGATTCAGGCGCAGCTGTCAGCGCGCAGCGGCTTGCCAGCGTCCCGCGAC	2468
Db	4329	TGCAAACTGACGCGTTGCGACACGCCAGCTGCTTCCGCTCAACGCGCGCGCATCCCT	4388
Qy	2469	ATCGTCAGACAGGCGCTGTGCGACAGCAAGTGTGCTGGCGGAGGCGACCTGATGCGCA	2528
Db	4389	GTGACGAGTACGCTGCTTATACCGGGAGCGGT-----ATGA	4427
Qy	2529	CGCAATACGATGATTTGCTGCTGCTGACCTGCGGAAATGGCTTGAATTTGCGCTGCGTC	2588
Db	4428	AAAATGGGATCTGATTTCTGCTGCGCGGCGGTGCGCAACGCGGCTTATCGCTTGGCGAC	4487

Db	5568	CTTCTCTGCGAGCCCATCATAAATGAAACAAACCATGTGTAATTTGGCGCCGGTTTCGGCGG	5627	6648	TGCGCCCTGCGTAAACCGACCCCGTTCGTGGCCCGCGCGCGGTGCGGAGCTACTATGTGCT	6707
Qy	3723	CTTGGCGCTGGCGAATTCGCTGCAAGCGCGGCGGATACCAACACCTTACTCGAGCAGCG	3782	4803	AGGCGCGGTGGCGCATCTCTGGCACCGCTGACATTCGATCGGCAACAGGAAGGACCGCGCTT	4862
Db	5628	ACTGGCGCTGGCGAATTCGCTTCAGGCGCGGCGGCAATTCCTACCAACCGCTGCGAGAGCGG	5687	6708	CGCGCGGTGGCGGCACTCTCGTAAACGCGCCCGCTCGACTCGAGCGTGGAAAGGCGCGCTCT	6767
Qy	3783	CGACAAACCGGCGGAGCGGCGCTATGTGTTTGAGGACAGTGGCTTTACCTTCGATGCCGG	3842	4863	GGCGGATCGAAATTTTGTCTTCTGAGCAGACACTACATGCGGGGATTAAGTTCAGCAAT	4922
Db	5688	CGACAAACCGGCGGCGGCGGCTATGTCTACGAAGATTCGCGGCTTACCTTTGATCGGG	5747	6768	GCGGATCGCAATTTTGTGATTTCTCGAGCGCGCTATATGCGGGGCTGGCTCCAGCT	6827
Qy	3843	ACCCACGCTGATCACCGATCCACAGCGCATCGAAGAGTTGTTCACGCTGCGCAGAAATC	3902	4923	AGTGACACACAGAAATGTTTACCGCGTTTGAATTTTCGCGACAGCTGCATGCCCATCACGG	4982
Db	5748	TCCACCGTCAATCACCGATCCCTCGGCCATTGAGGAGCTGTTTCCCTCGCCGGAACG	5807	6828	GGTGACGACCGCATGTTTTCACGCGGAGATTTTTCGCGATACGCTCGATGCGCTGGCAGGG	6887
Qy	3903	GCTCAGCGATTACGTCGAGTCGATGCGGTAACGCCCTTCTATCGCTGTGCTGGGAAGA	3962	4983	CTCGCGGTTTTCGCTGGAGCGGATTTTGAACGAAAGCGCTGGTTTCGCGCCGATTAACCG	5042
Db	5808	GCTGAAGGACTAGTTGAGCTGATGCGGTTGCGGTTGACGCGTTCTATCGCGCTGTGGGAAGA	5867	6888	GTGAGCGTTTTCATCTGGAGCGGATCTCTACCCAGAGCGCTGGTTTCGCGCGCACACCG	6947
Qy	3963	TGGCAACACGTTGATTAACACAAATATCAGCGCTGCTGGAGCAGATGCGCAGTTT	4022	5043	CGATGCCGATATCAGCAATCTCTATCTGTGTGGTGGTCCGTTACGCATCCAGGCGCGGCGT	5102
Db	5868	CGGCAAGGTTTTCGACTACGCCAACGATCAGGCGGCGCTTGGTTCGCGAGATCGCGGCTT	5927	6948	CGACGCGTGTGATAACCTCTTACTGTGTGGCGCGGAAACGATCCCGCGCGCTGGCGT	7007
Qy	4023	CAATCCGCAAGATGTAGAAGGCTATCGTCAATTTCTTGCCCTATTTCAGCTGAAGTATTAG	4082	5103	GCCCGCGTGATCGGTTTCGGCCAAAGCCACCGCAGGCTGATGCTCGAGGATCGCGCGA	5162
Db	5928	TAACCGCAACGACGTGGCGGCTATCACCGTTCCTCGACTATCTCCGCGCGTGTGTC	5987	7008	GCCGCGGTGATCGGATCCGCCAAAGGCAAGCGGCCAGTTAACTGTTAAAGGATTTAGCGTA	7067
Qy	4083	AGAGGTTATCTGAACCTCGGCAAGTGGCGTTCCTGCAAGTGTGCGGCGT	4142	5163	ATGAATTCGACAGCTTTTACTTTGAGGAAGTAAACGCAAAACCATGGCGGTGGCTCGAAGAT	5222
Db	5988	CGAAGGCTATCTGAAGCTCGGCGGTTGCGGTTTCTCTGCTTTCGCGACATGCTGCGCGC	6047	7068	ATG- - -TCCGAGCGCTTCTCGAACACGCGCAGCCACCATGATCCCGGCTTCTTAAAGT	7124
Qy	4143	CGCGCGCAGTTCGAGCGTCTGCAAGCATGCGCAGGCTCTACAGCATGCTGGCGAAAT	4202	5223	TTCCGACACCGCGCAAGCTGTTTGTGATGCACGCGCGCGACGACGCTGATGCTGTAT	5282
Db	6048	CGGTCTCTCAATCGCGCGCTGACGAGCATGCGCAGCGTGTACGAAAGTGTGCGCCTA	6107	7125	TTGCCACCGCTTCAAAGCTGTTTGAACAAACGACCCGCGGAGCGGCTGATGCTCTAT	7184
Qy	4203	TATTCAGGAGCATCTCGCTGAGGCGTTTCTCTTCCATCTCATTTGCTGTGGCGGTAA	4262	5283	GCGTGTGTGCTCACTGCGATGATGTGATGTTGATGGGCAACGCTGGGCGGAAGCGGCAGC	5342
Db	6108	CGTGGAAAGACGACCTGCGGCGGATTTTGGTTTCTCTGCTGCTGGCGGCGCA	6167	7185	ACCTGTGTGCGCTACTGCGACGATGTTATCGACGACAGTGTGTGGTTTGTGCGCCG	7244
Qy	4263	TCCTTTTGAACGTCACTATACCTTTAAATTCATGCGCTGAGCGTGAATGGGCGT	4322	5343	CAGCATGCGCTGCAAGACGCGGACGCGATGATGCGAGATCTGCAAAATGGAACCCGCGCG	5402
Db	6168	CCGTTCTCACGCTTCTTATTTACACCTGATCCACGCGCTGAGCGGAAATGGGCGT	6227	7245	ACCGAGCAGAGCGACACGCGCGGCGCGCTGCAACGCGTGGCTGAAGATGACGCGCGCG	7304
Qy	4323	GTGTTTTCGCGCGGCGGCAACCGCGCTGCTGTCAGGCGATGCGGCGATGTTTCGAGGA	4382	5403	GCTCTACAGCGCGCGCACATGGAATGAACCGCGCTTTAGGCGGTTTACGGAAGTGGCGATC	5462
Db	6228	CTGGTCCCGCGCGGCGGCAACCGGTGCGTGGTTTCAGGGCATGGTGAAGCTGTTTCAGGA	6287	7305	GCTCTACGAGGGAACCATGCAAGACCGCGCTTTCGCGCTTTCAGGAGTGTGCTC	7364
Qy	4383	CTTGGGCGGAGCTGTACTGAAATGCGAAGTGAGCGCAGCTGGAAACACGCGCAATCG	4442	5463	ATTCACAGCTGCGCGCAACAACTGGCGTTTGTATCTTGGAAAGCTTTCGCTATGGATGCA	5522
Db	6288	TCTTGGCGGCAACCTTACCTTAAAGCTCAGTTGAGCGGCTGGAGACGCTGGACATCA	6347	7365	GCCCATGCGCAATTCGCGCTACTCAGGCGCTTCGACCACTTGGAAAGCTATGCGATGGACGTG	7424
Qy	4443	CATTAGCGGCTTCACTTGAAGGCGGCAACGCTTTCGATGCGCGCGCTGTGGCTCCAA	4502	5523	CGCAACGAAATTCAGGAGCTTCGATGACACGCTGGTTACTGCTATCACGTCGCGGGC	5582
Db	6348	GGTGAAGCGCTGATCTGTTTAAACGGGCGAGCGGCTGAGGCTGCGCGGTTGGCTCGAA	6407	7425	CGCAACGAGCGCTTATTCAGCGCTCGATGATACGCTCGCTACTGTTTATACGTCGCGGGC	7484
Qy	4503	TGCGGAGCTGGTGCATCTACGACAACTGCTTTCGCGCACCATCGCTGGCAATGAAACG	4562	5583	GTGCTGCTTGTGATGATGCGCGCTAAATGGGCGTGGCGACGCAAGCGGTGCTCGATCAC	5642
Db	6408	CGCGGAGCTGGTAAATACTATGCGGACCTGCTGGGCGCATCACCGCGCGCGCTAC	6467	7485	GTGCTGCGCTGATGATGGCCAGGCTGATGGAGTGGCGGACGAGCCACGCTGGATCGC	7544
Qy	4563	TGCGACATCGCTGAAGCGTAAGCGCATGAGCAACTCGCTGTTTGTACTCTATTTGGCTT	4622	5643	GCTTGGATTTAGGACTGGCGTTTCCAGCTCACTAACAATTCGCGCGCGCATTTGTAGAGAT	5702
Db	6468	GGCCAAAAGCTGAAACGCAAGCGCATGAGCACTCGCTGTTGTGCTCTATTTGGCTT	6527	7545	GCTTGGATCTGGGCAATTTGCTTTTACGCTCACCAATATCGCCAGGGGATATCGTTGACGAT	7604
Qy	4623	GAATCAGCGCATGAACAGCTTCGCGCACCAACACGCTGTTTGGCCGCGGTTATCGTGA	4682	5703	GCGGAAATGCTGCTGCTATCTGCGGCAATCTTGGCTCGATCAGGCGGGAATACGCGCC	5762
Db	6528	GGATCACCATCACACCCAGCTGGGCGCACCATACGCTGCTGCTTTGGCCGCGGTTATAAAGC	6587	7605	GCGCAGGTGGGACGCTGCTACTCTGCGCGACGAGTGGCTGGCGGAAGTTCGCACTCAATGAA	7664
Qy	4683	GTTGATCGATGAGTTTTTCAACAGCAGCGAGCTGGCAGACGATTTTTTCACTTACCTGCA	4742	5763	GATACGCTGACTGCACCGCAACATCTGTGACAGCGCTCGCTCACTGGCAGCGCGTTTGTAGT	5822
Db	6588	GCTAATCGATGAATTTTTCAGCGCGGACACCTGTGCGAAGATTTTTCGCTCTATCTGCA	6647	7665	CAGACCTGACCGTGGGCGCAACCGCTCGCGCTGGCGGCTTGGCAGCGCGGCTGGT	7724
Qy	4743	CGCGCCCTGACGAGCGATCTGCTGCTGGCACCGCGGCTGCGGCGAGCTTTTATGTGTT	4802	5823	GCGGAGCGGAAACCTTATATCACTCGGCGCATCGGTTTACCGGTTTACCGCTCGCG	5882
				7725	ACCGAGGCTGAGCCCTATTATCAGTCAGCGCTTGGCGGCTGGGGGATCTGCCCCCTCGC	7784

Db	3344	T-----GA 3346	Qy	2409	CGGATGTCAGCGATTTCAGCGCAGCTGCGAGCGCGCAGGCGGTTGCCAGCGTGC	2468
Qy	1329	GGCCATGCGCATACATTCATCCAGCAAGCGATGCGCGCATCTTGTCTTAGCGGACGACGC	Db	4329	TGCAAACTGCGAGGCGTTGCGACACGCCACGCTGCTTCGGGTCAACGGCGGCGCATCCCT	4388
Db	3347	AGGACGCGCATCTGGTTACGCGTAAATAAGCACCTGGATATCGTCTGCACCCCTGACC	Qy	2469	ATCGTCGACGACGCGCTGTCGACGAGCAAGTCTGCTGCGGAGGCGACCTGATCGCGA	2528
Qy	1389	ATCGATTTTTCGCGTGGCGCAACAGACATCCCTGCGGTTGCGTGGCGCGCGTTG 1448	Db	4389	GTGACGCGATGACGGTCCCTTATACCGGGAGCGGT-----ATGA 4427	4427
Db	3407	GGCGGATGAGTACCATTCGACCGGATTTGACGCCCTGGCTTTTGAACACTGC-----	Qy	2529	CGCAATPACGATGATTTTGGTGGTGTGGAATGCGGAAATGCTTTGATTTGCGCTCGTTC	2588
Qy	1449	CATCGGCTGGCTCGCGCGCGCGCTGCTGCTGTTTCGCGTGATCGACGATCTCGGCTCC	Db	4428	AAAAATGGGATCTGATTTCTGGTGGCGCGGGCTGGCCAAACGGGCTTATCGCTGGCGAC	4487
Db	3460	-----GCCCTCCGGAGCTGGATCTCGACGGTATCGATCTCTCCACC 3501	Qy	2589	TGGGTCAATTGACGACCAACTGAAATGCTGTTGCTGGAGAGCGATGCGCATCCGGCAG	2648
Qy	1509	TGCACCGATATGTGTGCCGCAACTGCCCTGCGGTACTGAAAGCATTTGAACATCGATGCG	Db	4488	TAAAGCAGCGTCATCCGACGCTTGCTGTTAATGCTGGAGTGGCGGACGCGCCCGGG	4547
Db	3502	ACCTGTTTCCCGCGCGTGAAGCCCGGTGCTGATCAGCTCCATGACCGCGCGCG 3561	Qy	2649	GCAATCATACCTGGTGGTTCATACAGCGATCTACAGCGCCGAAACATTTGCTGGCTGC	2708
Qy	1569	GTGATGCGCGACGAATGGAAGCGCGGGCGGATTTGCTGCTGAAGCGCTGCATCTGCCG	Db	4548	GAAACACACCTGGTCTTTACCAACACGATATCAGCCAGCCACGCTGCTGGCTGG	4607
Db	3562	GCGCGCGCAGACATTAACCGTCACTGCGCCGACGCGCGCAACCCCTTGGGCTGGCG	Qy	2709	AACCGCTGATTACCGTGCCTTGGTTCAGGTTATCAGGTGCGTTTCTGCGCTGGCGCGCA	2768
Qy	1629	TTTGTTCGGGTGGCTGCGCTTGCCTGTCATCGTGAAGCGCGGATTCGCTTGGCGTG	Db	4608	CGCGCTGCTGGCCCATCGCTGGGACGGTACGACGCTCCACTTTCGGAACGCTGTCGCGCA	4667
Db	3622	ATGGCGTTCGTTCCAGCGCGTGGCTGGAGACGGCGCGCAGCGGCTGGATGCC 3681	Qy	2769	ATCTGACGCGGATTTATGTTCCATCGCATCAGGCGATTTTGGCCCGCATCTTTACGCGG	2828
Qy	1689	ATGCCCTTCGTTTGCACAGATGACAAAGCGCTGAAACGTTTTCAGGCCAGCAGCGAT	Db	4668	CCCTGATACCGGCTACCTGACCATCACCTCCACGCGTTTGGCCCAAGGATCGCGGGC	4727
Db	3682	CAGCTACGCATATCGCCCGGACGTGCCCTGCTG-----GCT 3720	Qy	2829	CGATGGTCAACGATCTGTGCAAAACACAGCCGTACAAACAGGTAAAAACCCACGACGTGA	2888
Qy	1749	ATCTATGATCGCATCGCTGTCAGCGGACGTGATCTCTCAACACGCGCGGGGTTT 1808	Db	4728	TGATGAAAGAGATTTTGTGACAAACGTGATCCGCTGTCACGGGTGAGCGGGCAGGAGTAA	4787
Db	3721	AACCTTGGCGCGCAGATCCGCGTGGCGAGGGCTGGACTACGCCCGCGCGCGGTG 3780	Qy	2889	CGCTGGCGATGCGCGTGAACCTTGTGCGCAAGTGTGTATGATGTGCGGCTTGCGAGC	2948
Qy	1809	AAATTGACGAGCGCGCGATTAACATCAGTGCCTGTCGCGCTGGGCACAAATCAGCCAG	Db	4788	CCCTCAGCGACGACGACGCTTTACCGCGGGCGGTGATTTGATGCGCGCTATCAGC	4847
Db	3781	GACATGATCAGCGCGAGGTTAATTGTGATCTGAAACCGCTG-----CAG 3828	Qy	2949	CGAGCCCATCTGCGAGCTGGGTTATCAGGTGTTTCTTGACAGAGTGGAGCTGGCGC	3008
Qy	1869	ATGTCGCGGCTTTGATTTTCCACGTCAGCAACTGCCCGCTGCTATCACGCGTGGG 1928	Db	4848	CCTCGCGCACCTCAGCATTTGGCTATCAGCGCTTCATCGGCGAGGAGTGGCACTGACCG	4907
Db	3829	GAGCGCTCCAGGCGCGCGATCGCGACTGGCGCGGCATCTCTCAACGCGCATTTGCGCAG	Qy	3009	AGCGCACGCGCTGCGAGCAGCCGATCTGATGATGCCACCGCTGATCAGCAAGCGGTT	3068
Qy	1929	CCACTCGCGCGCGGTTTCTCTGCGCGCTCCATGCGCCCTGGCGAGCGCTGCGTCAG	Db	4908	CGCCCCACGGGTTAAACGCGCCGATCTCTGATGATGCGCGCTCGCCAGGGCAACGGCT	4967
Db	3889	CTGTGCGCACCTGCGCGTACCGGTGGTGTAAAGAG--GTGGGCGCGGAGATCTCCC 3946	Qy	3069	ATCGTTTGTCTACGCTGCCGCTCAGCGCGCATCGGCTATTTGATTTGAAGATACCCAT	3128
Qy	1989	CCGCTGTTTATGCTCGCTGGGTACGCTGCAAGCGCATCGCTTTCGCGCTGTTTCTGCAT	Db	4968	ACCGCTTTGTCTATACCTGCGCTCAGCGCCGACACCCCTGCTTATCGAAGACACGCACT	5027
Db	3947	CGGAGTTGCTGCGACTGGCGACGTCGCGCTGGCGATGATCGACATTG-----	Qy	3129	ACGTTAACAGCCCGCGCTGGCGGAGAACACCGCTGTCAGACATCGCCGATATGCCA	3188
Qy	2049	CTGCGCAGGTGCGCGCAGCTGCGCTATCGCTGCTGATCGCCCATTTGTGGGGATTA 2108	Db	5028	ACATTCAGCGCCGACGCTCGACCGCATTTTCAGCCCGCGCGGATTTGCGGATTTACGCC	5087
Db	3998	CGGCGCGCGCGAAACAGCTGGCGCGGTGGAAAGCTGAAACGCGGCCCG-----	Qy	3189	ATCAGCAAGCTCGACGCTGAGTACGCTGCTGCTGAAAGACGACGCGCATATTACCGATTA	3248
Qy	2109	AACGCCAAACAGACGATCAGCTGGAGCTCGCTGGCGCGGCTGGGTGACGGAATTCGTC	Db	5088	GCCAGCAGGCTGCGAGCTTGGCGGCTGCTGCTGAGGAGAACAGGGGCGCTGCCGATCA	5147
Db	4048	---ACCCCGAGGCGGAAATGTGGCATGCGCTTTGCCGACTGGGGCAATTCCTACTGCC	Qy	3249	CCCTGAGCGGCAACATCGATCGATTCTGGCAACAGCAGCGCGGCCCAAGCGTGCAGCGGCC	3308
Qy	2169	GATCAGCGCGCAGCCCTACAGCAGCGCAGCTGTTTATCACTCATGCGGGTTAAACAGC	Db	5148	CCCTGTCCGCGATCCGCGCGCTTCTGGCAACAGTTCCATCATCAGCGGTCAGCGGCC	5207
Db	4105	GATCGCTGGTCCGCTCCATCTTTGCGCTGCTGATATCCGCTTATCGCTTCCGCGGC	Qy	3309	TGCGCGCGGCTGTTTCATGCCACACCGGTTACTCTTGGCGTCCGCGTGGCGGTAG	3368
Qy	2229	GCGCTGGAAGACTGGAATGCGGTACGCGCGATGCTGGCGTTCGCGATGCTTTTGTATCAG	Db	5208	TGCGCGCGGCTCTGTTTCCATGCCACACCGGCTATTTCGCTGCGCTGGCGGTTCGGTGG	5267
Db	4165	ATCCCAACGCGATTGACGAGCAA-----AAGCCATCGCGCTGGGTGCGAGATCTG	Qy	3369	CGGAGTTGGTAGCAGCGCTGTTGCCACCGATGCCCTCAGCTCAGCCAAACATATCGAAC	3428
Qy	2289	CCCGCTGGCGCGCGCATTTGATGGCATGACGTTGTCGCGCGCATCAGCTTTAGC 2348	Db	5268	CGAACCGCATTTGCCAACGCGCCGGGACTGCATCAGGGCGGCTCTATCAGCTGATCCCG	5327
Db	4216	GTGGGCGAGCGCGCGGTGCTGGCGCATGCCAACGCTCCGCGAGCGCGGAATTTGCC	Qy	3429	GCTTTGCCGCTAGCAGTGGCGGAAACAGCGATTTTTCGCTGCTGCTGCTGCTGCTGCTG	3488
Qy	2349	CGTGTTCATCAACTGGAGCAGCATCTGCAACAGCTGCTGACCGACGATCTGTTACGCGCTA	Db	5328	ATTTCCGCGCGCGCCACTGGCAGACACACGCTTTTTCGCGCTGCTTAAACCGCATGCTTT	5387
Db	4276	CATTTCCGACCCCTGATTACGACGTGC-----GGATCGCTGTTTCTGTACCGGCGAG				

QY	3369	CGGAGTTGGTAGCAGCGCTGTTGCCACCGATGCCCTCAGCGCTCAGCCAAACATATCGAAC	3428	QY	4443	CATTAGCGCGTTCAGTTAGAGGGCGGACGACGCTTCGATCGCGCGCTGTGGCTCCCAA	4502
Db	5268	CGAACCGCATTTGCCAAACGCGCGGAGCTGCATCAGGGCGGCTCTATCAGCTGATCGCG	5327	Db	6348	GGTGAAGCGCGTGCATCTGGTTAAACGGGCGACGGCTGGAGGCTGCGCGGTGGCTCGAA	6407
QY	3429	GCCTTGGCCGTACGACGAGTGGCGGAAACAGCGATTTTTTCCTGCTGCTAAACCGCATGCTGT	3488	QY	4503	TGCGGACGTTGTGTCATACCTACGACAAACTGCTTTCGCCACCATCGCTGGCAATGAACG	4562
Db	5328	ATTTGCGGCGGCCACTGCGACACAAACGCTTTTTTCGCTGCTTAAACCGCATGCTTT	5387	Db	6408	CGCGGACGTTGGTAAATACCTATGCCGACTGCTCGGCCATCACCGCACGGCGCGCTAC	6467
QY	3489	TTTTTGGCCGTAAGCCGACGACGCTGGCGCGTGAATGCAACGTTTTTACCGGCTCGATG	3548	QY	4563	TGCGACATCGCTGAAGCGTAAGCGCATGAGCAACTCGCTTTGTGTACTCTATTTTGGCGCT	4622
Db	5388	TCCTGGCCGCGACACCGGACCGAGCGCTGGCGCGTGAATGACGCGTTTTTACGAGCTTGAACG	5447	Db	6468	GGCCAAAAGCTGAAACGCAAGCGCATGAGCAACTCGCTGTTGCTCTATTTTGGCGCT	6527
QY	3549	CGGGTTAATTAGCGCTTTTACCGCGGCAACTGCGCTGGCGGATAAACCGGGAATTC	3608	QY	4623	GAATCAGCGGCATGAACAGCTCGCGACCAACACCGTCTGTTTTGGCCCGGTTATCGTGA	4682
Db	5448	AGCAGCTGATCGCCCGTTTTTATGCGCGCAGCTTTCGCTCCGCGACCGCGCGCGCTGC	5507	Db	6528	GGATCACCATCACCCAGCTGGCGACCATACCGTCTGCTTTGGCCCGGTTATAAAGC	6587
QY	3609	TGTGCGCAAGCGCGGTGCCCATCGGTGAAGCGCTGCGCGCTGTT-----GAATT	3662	QY	4683	GTGTGATCGATGAGATTTTTCAACAGCAGCGCTGGCAGACGATTTTTTCACTTTACCTGCA	4742
Db	5508	TGCTTGGCAAAACGCGCGGTGCGGATTTGTCGGGCGGATCAAAAGCCCTGCTCCACACTCATTT	5567	Db	6588	GCTTAATCGATGAAATTTTTTTCAGCGCGACACCCCTGTGCGAAGATTTTTTTCGCTCTATCTGCA	6647
QY	3663	CTGTGCAACACAGGGAAGAAAAATGAACGCACTTATGTGATTGGCGCAGGCTTTGGCGG	3722	QY	4743	CGCGCCCTCGACGAGGATCGTTCGCTGGCACCGCCCGGCTGCGGAGCTTTTATGCTT	4802
Db	5568	CTTCTCTGCGAGGCCATCATAAATGAACAAACCAATTTGTAATTTGGCGCGGGTTGCGCGG	5627	Db	6648	TGCGCCCTCGTAACCGACCCGCTCGCTGGCCCGCGGGTGGCGAGCTACTATGTGCT	6707
QY	3723	CTTGGCGCTGGGATTCGCTGCAAGCGCGGGCATACCAACCACTTACTCGAGCAGCG	3782	QY	4803	AGCGCGGTGCGCATCTCGGCACCGCTGACATCGATGCGCAACAGAAAGGACCGCGCTT	4862
Db	5628	ACTGGCGCTGGCGATTCGCTTCAGCGCGGGGCAATCTCTACACGCTGCTGGAGAGCGG	5687	Db	6708	CGCGCGGTGCGGCACCTCGGTTAACGCCCGCTCGACTGGAGCGTGGAAAGGCGCGCTCT	6767
QY	3783	CGACAAACCGGGGAGCGCGCTATGTTTGAAGGACAGTGGCTTTACCTTCGATGCGCGG	3842	QY	4863	GGCGATCGAAATTTTTTGTCTTATCTGGAGCAGCATCTACATGCGCGGGATTAAGTCAGCAATTT	4922
Db	5688	CGACAAACCGGGCGCGGCTATGTTTACGAAGATCGCGGCTTTACCTTTGATGCGCGG	5747	Db	6768	GGGGATCGCATTTTTTGTATCTCGAAGCGCGCTATATGCCGGGGCTGCGCTCCAGCT	6827
QY	3843	ACCCACGGTGATCACCGATCCGAGCCCATCGAAGAGTTGTTTCACGCTGCGCAGGAAATC	3902	QY	4923	AGTGAACACAGAAATGTTTACCGGTTTGTATTTTCGCGACACGCTGCATGCCCATCACGG	4982
Db	5748	TCCACCGCTATCACCGATCCCTCCGCCATTGAGGAGCTGTTCACCTCGCGGAAACG	5807	Db	6828	GGTGAACGACCGCATGTTTCAACCGGAAATTTTCGCGATACGCTGCATGGCGAGG	6887
QY	3903	GCTCAGCGATTAAGTTCAGCTGATGCGGTTAAACGCGCTTCTATCGCTGCTGCGGAAGA	3962	QY	4983	CTCGCGTTTTTCGCTGGAGCGGATTTTGAACGAAAGCGCTGTTTCGCCCGCGCATAAACCG	5042
Db	5808	GCTGAAGGACTACGTTGAGCTGATGCGCGGTGACGCGCTTCTATCGCTGCTGCGGAAGA	5867	Db	6888	GT CAGCGTTTTCACTGGAGCGGATCTCTCAACCGAGAGCGCTGTTTCGGCGCGACAAACCG	6947
QY	3963	TGGCAACAGCTTGATTTACGACAAATATCAGCGCTGCTGGAGCAGAGATCGCACGTT	4022	QY	5043	CGATGCGGATATCAGCAATCTCTATCTGTTGGTGGCGGTAACCATCCAGCGCGGCGGT	5102
Db	5868	CGGCAAGTTTTTCAGCTACGCCAACGATCAGCGCGGCTTGAATGCGAGATCGCGCGTT	5927	Db	6948	CGACGCGTGGTTGATAACCTCTACTCTGCTCGCGCGCGGAAACGATCCCGCGCTGCGCT	7007
QY	4023	CAATTCGCAAGATGTAGAAGCTATCGTCAATTTCTTGGCTTATTCACGTTGAAGTATTAG	4082	QY	5103	GCCCGCGGTGATCGGTTTCGCGCAAGCGCACCGCGCTGATGCTGGAGGATCGCGCGA	5162
Db	5928	TAACCCGAAACGACGTGGCGGCTATCACCGCTTCTCTGACTACTCCCGGGCGGTTTTCG	5987	Db	7008	GCCGGCGGTGATCGGATCGCGCAAGCAACGCGCCAGTTAAATGTTAAAGGATTTAGCGTA	7067
QY	4083	AGAGGTTATCTGAAACTCGGCACGGTGGCGTTCGCAAGGTGCGTGAACATGCTGCGCGT	4142	QY	5163	ATGAATCGACAGCGCTTTTACTTGAAGCAAGTAACGCAACCATGCGCGGTGGGCTCGAAGAT	5222
Db	5988	CGAAGGCTATCTGAAGCTCGCGCGGTGCGCGTCTCTCTCGTTTCGCGACATGCTGCGCG	6047	Db	7068	ATG---TCCAGCGCGTTCTCGAACACCGCAGCGCCACCATGACCGCGGTTCTTAAAGT	7124
QY	4143	CGCGCCGAGTTGGGAGCTCTGAAGCATGCGCAGCGCTCTACAGCATGGTGGCGAAAT	4202	QY	5223	TTGCCACACCGCCCAAGCTGTTTGAATGCAACCGAGCGCCCGCAGACGCTGATGCTGTAT	5282
Db	6048	CGGTCTCAACTGCGCGGCTGCAAGGATGGCGCAGCGGTGACGCAAAAGTGTGCGCCTA	6107	Db	7125	TTGCCACACCGCTCAAGAGCTGTTTGACAAACGACCGCGCGCAGCGCGCTGATGCTCTAT	7184
QY	4203	TATTCAGGACGATCATCTGCGTCAAGCGTTTTTCTTCCACTCTATGCTGGTGGCGGTAA	4262	QY	5283	GCCTGCTGCTCACTGCGATGATGTTGATTTGATGAGGCAAAACGCTGGCGGAAGTGGCGATC	5342
Db	6108	CGTGAAGACGAGCACCTCGCGGACGAGCAATTTTCGTTTCACTCGCTGCTGGCGGCA	6167	Db	7185	ACCTGGTGGCGCTACTGCGACGATGTTTATCGACGAGGTTGGTGGGTTTTTGTGCGCCCG	7244
QY	4263	TCCTTTTGAACGTCATGATCTATACCTTAATTCATGCGCTGAGGCGTGAATGGGCGT	4322	QY	5343	CAGCATGCCGTCGAAAGCGCGCAGGACGATGATGACAGATCTGCAAAATGGAACCCCGCGC	5402
Db	6168	CCCCCTTCTCAAGCTTCTTATTTACACCTGATTCACGCGCTGAGCGGGAATGGGCGT	6227	Db	7245	ACCGAGCAGAGCGACACGCGCCGAGGCGCGCTGCAACGCGCTGGTGAAGATGACGCGCGC	7304
QY	4323	GTGGTTTTCCGCGCGCGGACCGCGCGCTGCTGGTGCAGGCGATGGCGGACTGTTTCAGGA	4382	QY	5403	GCCTACAGCGCGCGCACATGGAATGAACCGCGGTTTAGGGCGTTTTCAGGAAGTGGCGATC	5462
Db	6228	CTGGTTCCCGCGCGCGGACCGGTGCGCTGGTTTCAAGGCAATGTAAGCTGTTTCAGGA	6287	Db	7305	GCCTACGACGCGGAAACCATGCAAGAGCGCGGCTTTCGCGCGCTTTCAGGAGGTTGGCCCTC	7364
QY	4383	CTTGGCGGCGAGCTGTTTACTGAATGCCGAAGTGAAGCGAGCTGGAAACACGAGCGCAATCG	4442	QY	5463	ATTCAACAGCTGCGCAACAACTGGCGTTTGTATCATCTGGAAGGCTTCGCTATGGAATGCA	5522
Db	6288	TCCTTGGCGGCACTTCAACCTTAACGCTCAGGTTGAGGCGGCTGGAGCGGTGGACAATCA	6347	Db	7365	GCCCATGCCATTCGCGCTACTCAGGCGCTTCGACCACTGGAAAGGCTATGCCATGGAAGT	7424
				QY	5523	CGCAACGAACATTAACGCGAGCTTTCGATGACACGCTGCGTTTACTGCTATCACGTCGCGGC	5582

Db 7425 CGCAACGAGCGCTATTACAGCTCGATGATACGCTCCGCTACTGTTATACGTTGGCGGC 7484
QY 5583 GTGGTGGTTTGTATGATGGCGCGTAATGGCGGTGGCGACGACGAGCGGTCTCTCATCAC 5642
Db 7485 GTGGTGGCTGTATGATGGCGAGGGTATGGAGTGGCGACGAGCGACGCTGGATCGC 7544
QY 5643 GCCTGCGATTTAGGACTGGCGTTCCAGCTCACTAAACATTGGCGCGACATTGTAGAGAT 5702
Db 7545 GCCTGCGATCTGGCATTCCTTTCAGTCAACCAATATCCGAGGATATCGTTGAGAT 7604
QY 5703 GCGCAAAATGGTCTGTCTATCTGCCCAATCTGTGCTCGATCAGGCGGGAATTACGCGCC 5762
Db 7605 GCGCAGTGGAGCGCTGTACTACCTCCGCGCAGCAGTGGCTGGCGAAGTCGACACTCAATGA 7664
QY 5763 GATACGCTGACTGCACCGCAACATCGTGACGCTCGCTCACTGGCAGCGGTTTATG 5822
Db 7665 CAGACTGACCGTGGCGGCAACCGTCCGCGCTGGCGGTCTGGCAGCGCGGCTGGTG 7724
QY 5823 GCGGAGCGGAACCTTATATCACTCGCGCGCATCCGTTTACCGGTTTACCGCTGCGC 5882
Db 7725 ACCGAGCTGAGCCCTATTATCATGTCAGCGCTTCCGCGGTGGGGATCTGCCCTGCGC 7784
QY 5883 TCGGCTGGGCCATCGTACGGCTCGCGCGGTTTATCGCGAAATTGGCGTCAAGTTTCAG 5942
Db 7785 TCGGCTGGCGGATTCGCAACCGCGCACGCGGTGTATCGTGAGATCGGGGTGAAGTGCTG 7844
QY 5943 CAGCGCGTGTGCACCGCTCGGATTCACGCGCGCACGACCACTAAGTGAACCTGGCG 6002
Db 7845 ATGCGCGGTGAAGATGAGTACCCGCGCGCACGACGCGCGCGGAGAGCTGGCG 7904
QY 6003 CTGCTGTGAAAGGGGCGAGTTTGGCGATCACTTTCGCGTGTCTCGTCTGCAACCGCGT 6062
Db 7905 CTGTTATTTCGCGCGAGCAGCGATGCGTTCGCGAAGGCGAGCTGGCGCGCGCGC 7964
QY 6063 CCGGCTGTGTGGCAGCGTCTCTGTTGATTTTACGTCCGTGACGTGGCGCAGCGTGG 6122
Db 7965 GATCCGACCTCTGGCAGCGCGCGCTAGCGGTCTGCGGTTACGTTTCGCGCAGCACCG 8024
QY 6123 CTGCGAGCTTATTCAGGCTGGCGGTAGAGGAAACCAACGACACGCGACCTTCAGCC 6182
Db 8025 CTGCGAGTGTCCACCGGTGGGCGGTAGATAACCCGAGAGAGACGACCTTCGCGCC 8084
QY 6183 CGCGCACCGCATGATGATCGCGTGGCGCATGATTAAGCGCTTAAAGATAGCTTTGGCG 6242
Db 8085 CCGCGACCGGTGATGACGCGGTGTGCTATGAGGCGCGCAGATAGCCGCGCGCG 8144
QY 6243 GGATATAGCGGAACGCGCAGCTTGATGCAACGAGGCAATCGTCAACATGAAGTAGAGC 6302
Db 8145 GCACGTAAACGGAACGCGCAGCGCTGGTGGACTAAACCATCGTGAACGATAAAGTAGATCA 8204
QY 6303 CGCGGTACGTGCTATTCGCGACCAATCACTGCGAGCGGCAATGCTTGGCACACCGA 6362
Db 8205 CGCGGTAGCGGTGCTATTCGCGCGCAATCACTGAAGCGGCGAGTACCTTCGCTGCCCG 8264
QY 6363 CATAAATCAGCAATCGCGCAGTACCGCAACACCGCATAAAGATCGTTGAGCTCAA 6422
Db 8265 CGTAATCAGGCAATGGCCAGTAGCGCAACACCGCATAGATCGTTAGCTCAA 8324
QY 6423 ACTTACCGTGTGGTTCATGTTGCGACAGATGCGAGGCCCATCCCAACCGTGCATGA 6482
Db 8325 AGCCCTCTTGGCGGGTATGTTGGGAATGATGCGAGGCCCATCCCGACCGCTGCATGA 8384
QY 6483 TGTATTATGCGACGCGCGCTACGATTTCCATCACCACCGATCGGTTGCCCAACAGATA 6542
Db 8385 TGTACTGTGTGCGAAGCTTGGCACCCTTCCATGATGATGATGATGATGATGATGATGATGAT 8444
QY 6543 GCACGTTTCAATACAGAGCATTTGTCCTCATTT 6577
Db 8445 CGGTATTCACACGCAAGCATAGTTTTCCTGT 8479

US-10-041-018-19
; Sequence 19, Application US/10041018
; Publication No. US2004007232A1
; GENERAL INFORMATION:
; APPLICANT: Matsuda, Seiichi P.T.
; APPLICANT: Hart, Elizabeth A.
; FILE OF INVENTION: Diterpene-Producing Unicellular Organism
; FILE REFERENCE: P02080U51/10025547
; CURRENT APPLICATION NUMBER: US/10/041,018
; CURRENT FILING DATE: 2002-01-07
; PRIOR APPLICATION NUMBER: US 60/259880
; PRIOR FILING DATE: 2001-01-05
; NUMBER OF SEQ ID NOS: 413
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 19
; LENGTH: 12753
; TYPE: DNA
; ORGANISM: Pantoea agglomerans
US-10-041-018-19

Query Match 30.5%; Score 2135,2; DB 7; Length 12753;
Best Local Similarity 64.4%; Pred. No. 0;
Matches 3263; Conservative 0; Mismatches 1765; Indels 39; Gaps 4;
QY 1479 CTGTTTCGGGTGATCGACGATCTCGGTCCTGCACCGATATGCTGTGCCGGAATCGCT 1538
Db 5780 CTGCTGGGCTGATTCGGCCATGTCTCTCCGACGATGTCTCTGACGAGTTGCC 5839
QY 1539 GCGGTACTGAACGATTGAACATCGATGGCGTATCGCGACGAAATGGAAGCGCGGC 1598
Db 5840 GCTATTCTACAGCGGTGGCGGTGAGCGCTGATTCGATGAGATGAGAGCGCGCGA 5899
QY 1599 GGAATGCTCGTCAAGCGTGCATCTGCGTGTGTTTGGTGGCTGCGCTTCCCGGTC 1658
Db 5900 AGCTGTGTCGCGAGCGCTGGGACTACCAATTTATCTTATGCTGCGCGCTGCGCGTC 5959
QY 1659 AATCGTGAAGCCGGGATTCGCTTGGCGTATGCTCCCTTCCGTTTTCACAGGATGACAA 1718
Db 5960 AACCGGAGCGGCTGCGCTGCGGTGATGCGGTTTCACTACGCGGAGGATAAGAGA 6019
QY 1719 GCGCTGAAGCTTTTCAGGCCAGCAGGATATCTATGATCGCATCATGCTGTCAGCGC 1778
Db 6020 GCGCTGCGGCTTTTCAGGTGACGAAACGATCTACGATCGCTGTATGATCCGCGACGG 6079
QY 1779 GAGCTGATCTCAACACGCGCGGCTTAAATTTGACGAGCGCGCGGATACATCAG 1838
Db 6080 CAGACGATCTGCGCACGCCAGCGCTTTGGTTTTCGCGAGCGGCGCTCTCGACGAG 6139
QY 1839 TGCTCTGCGCGCTGCACAAATCAGCAGATGCTGCGGCTTTGATTTTCCACGCTCAG 1898
Db 6140 TGTCTCTGCGCGCTGGCGAGATAGCCAGTCCGTTCCGCGCTCGACTTCCACGCGCG 6199
QY 1899 CAATCGCGCTGCTATCAGCGCTGGGCGCACTCCGCGCCCGGTTTCTCTGCGCGC 1958
Db 6200 GCGCTCGCAACTGTTTTCACGTGGGAGCACTGCGC-----TATCAGCGCGC 6250
QY 1959 CTCCATGCGCGTGGCAGCGTCTGACGCGGTGTTTATGCTGCTGCGGTAGCTG 2018
Db 6251 CCGCAGTGAACGCTGCGCACGACGACGCGCGGATCTTTGCTGCTGCGGACCCCTC 6310
QY 2019 CAAGGCGATCGCTTCCGGCTGTTTCTGCACTCTGCGCGAGCGGTGCGCCAGCTGCGGCTA 2078
Db 6311 CAGGCGCAACGCTACGCTGTTTTCAGAGATGCGCGCGCTGTGCCACGCTGGGGCG 6370
QY 2079 TCGTGTGATCGCCCATTTGTGGGGAATTAACGCGAAACAGACGATACGTTGAGCTC 2138
Db 6371 GAGGTACCAATTCGCCACTGCGATGGCTGACGCCCGCGCGGCGGCTGCTCTAGCC 6430
QY 2139 GCTGGCGCGCTGGGTGAGGATTTCTGATCAGCGCGCGCGCCCTTACAGCAGCGCAG 2198
Db 6431 TCGCGCGCAGCGAGGTGCTGAGCTTTGTGACGACGCGCGCTACGTTGCGGAGGCTAAT 6490
QY 2199 CTGTTTATCACTATCGCGGTTTAAACAGCGCGCTGGAAGCACTGGAATGCGGTACGCGC 2258

Qy	4416	GAGCCAGCTGGAACACGACGCGCAATCGCATTTAGCGGCTTCAGTTAGAGGCGGACGACG	4475	5496	CATCTGAAGCGTTTCGTATGATGACGCAACGAAACATTTACGCGAGCTTCGATGACACG	5555
Dd	8687	CRAAGAGCTGGTGGCCGATACCGGTAAGCCAGGTCCGGCTGGCGGATGTCGGAT	8746	9764	CACCTCGACGGCTTTGGATGGAGCTGGCTCAGACCCGCTATGTCACTTTTGGAGATACG	9823
Qy	4476	CTTCGATGCGCGCCGCTGGCTCCAAATGCCGACGTGGTGATACCTACGACAACTGCT	4535	5556	CTGGTTACTGCTATCAAGTCGCGGGGCGTGGTTCGGTTTGTATGATGGCGCGGTAAATGGGC	5615
Dd	8747	CTTTGACACCGACCGCTAGCTCGAAGCGTGTGACGTGTAACACCTATATAAAGCTGCT	8806	9824	CTGCGCTACTGCTATCAAGTCGCGGGGCGTGGTGGGTCTGATGATGGCCAGGCTGATGGGC	9883
Qy	4536	TCGCCACATCCGCTGGCAATGAACGTCGACATCGCTGAAGCGTAAGCGCATGACAA	4595	5616	GTGCGGCACGAAGCGGTGCTCGATCAGCGCTGCGATTTAGGACTGGGCTTCAGCTCACT	5675
Dd	8807	CGGCCACATCCGCTGGGCGAAGAGCGGCGCGAGCGCTGGAGCGCAAGAGCATGAGCAA	8866	9884	GTGCGGATGAGCGGCTGCTGATCGCGCTGCGATCTGGGGCTGGCTTCAGCTGACG	9943
Qy	4596	CTGCGCTGTTGTACTCTATTTTGGCTGAATCAGCCGCGATGAACAGCTCGCGCACACAC	4655	5676	AACATTCGCGCGCAATTTAGAAAGTCCGAAATGCTCGCTCTATCTCGCCCAATCC	5735
Dd	8867	CTGCGCTGTTGTCTACTCTGCGCTGAACACGCTCAITCCAGCTGGCGCACCATAC	8926	9944	AATATCCCGCGGATATTTAGCATGCGCTATTGACCGCTCTATCTCGCCCGCGAG	10003
Qy	4656	CGTCTGTTTGGCCCGGTTATCGTAGTTGATCGATGAGATTTTCAACAGACGACGCT	4715	5736	TGGCTCGATCAGGGCGGATTTACGGCCGATACGCTGACTGACCGCAACATCTGTCGACG	5795
Dd	8927	CATCTGTTTGGTCCCGCTACCGGAGCTGATCGAGGAGATCTTTTACCGGACGCGCT	8986	10004	TGGCTGAGGATGCGGGGCTGACCCCGGAGAACTATGCGCGCGGAGAAATCGGCGCGC	10063
Qy	4716	GGCAGACGATTTTCACTTACCTGACGCGCGCTGACGAGCATCGCTGCTGCGAC	4775	5796	CTGCGCTCACTTGGCAGCGGTTTAGTGGCGAGCGGAAACCTATTATCATCTCGCGCGGA	5855
Dd	8987	GGCGGATGACTTCTGCTCTACTCTGCGCTGCGCTGCGCTGCGCTGCGCTGCGCT	9046	10064	CTGCGCGGCTGGCGAGCGGCTTTTGTATGCCGAGAGCGCTACTACATCTCTCTCCAG	10123
Qy	4776	GCCCGGCTGGGCGAGCTTTTATGTTGTAGCGCGGCTGCGCATCTCGGCAACGCTGACAT	4835	5856	TCGCGTTTACCGGTTTACCGCTCGCGCTCGCGCTGGGCGCATCGCTACGGCTCGCGCGCT	5915
Dd	9047	TCCCGGCTGGCGAGCTTCTACGTGCTGCGCCCGTGGCGCATCTTTGGCAACGCGCGCT	9106	10124	GCCGGGCTACAGCATCTGCCCGCGCTGCGCTGGCGATCGGCAACCGCCCGCAGCGTC	10183
Qy	4836	CGACTGCGAAACAGGAAGACCGGCTTTCGCGATCGAATTTTTCCTTATCTGGAGCAGCA	4895	5916	TATCGCGAAATTTGGCGTCAAAGTTTACGACGCGGTTGTACGCGCTGGGATTTCAACG	5975
Dd	9107	GGACTGGGCGCAGGAGGCGGCGAAGCTGCGGACCGCATCTTTGACTTACCTTTGAAGAG	9166	10184	TACCGGAGATCGTATTAAAGTAAAGCGCGGAGCGGCGCTGGGATCGCGCGCAG	10243
Qy	4896	CTACATCGCGGATTTAGTCAGCAATTTAGTACACACAGATGTTTACGCGCTTTGATTT	4955	5976	CGCACAGTAAAGGTGAAACTGGCGCTGCTGTGAAAGGGGCGAGTTTGGCGCATCACT	6035
Dd	9167	CTATATGCCCGGCTGCTGAGTACGAGCTGGTGGTACCGAGGATCTTTTACCGCGCAGCT	9226	10244	CACACAGCAAGGTGAAAAAATTTGCATGCTGATGGCGGACCGGGCGAGTTATTGCG	10303
Qy	4956	TCGCGACACGCTGATGCCCATACGCGCTCGCGCTTTTTCGCTGGAGCGGATTTTACGCA	5015	6036	TCGCGTGTCTCTCTCTGAAACCGCGCTCGCGCTGCTGTGGCAGCGCTCTCTGTTGATTT	6095
Dd	9227	CCACGACACGCTGGATCGGATCTGGGATCGGCTTCTCCATCGAGCGGCTGTGACCCA	9286	10304	GCGAAGACGACGAGGTTGACCGCGCTCGCGCGCTCTTTGGCAGCGTCCCGTTTAGCG	10363
Qy	5016	AAGCGCTGTTTCGCGCGGATACCGCGATGCGGATATCAGCAATCTCTATCTGGTGG	5075	6096	TAGCTCGTGAAGCTGGCGAGCGTGGCTTTCAGCTTATTTACGCGGTGGCGGTAGAGGA	6155
Dd	9287	AAGCGCTGTTTCGCGCGGATACCGCGATGCGGATATGCGCAATCTCTACCTGTGG	9346	10364	GCGCGCATGACCTTTACGCGAGGATCGCTGTAGTCTGGCAGGCTTTCGCGCGTAAATAA	10423
Qy	5076	TGCGGTACGATCCAGCGGCGGCTGCGCGGCTGATCGGTTGCGGCGAAGGCGCGC	5135	6156	AACCAACGACGACGAGCGCTTTCAGCGCGCGCACCGCATGCTGCGGTGCGCGCATGT	6215
Dd	9347	CGCAGGTACTCACCTTGGGCGGCGATTCCTGGCGTGTGCGCTTTCGCGGAAAGCGCG	9406	10424	AACCGAAGGAGACGACGCTTCCCGCGCGCACCGCTGCTGCGCGGTGGCGGAGCT	10483
Qy	5136	CAGGCTGATGCTGGAGGATCGCGCGGATGAAATCGACAGCTTTTACTTTGAGCAAGTAA	5195	6216	ATAAGCGCTTAAAGATAGCTTTTTCGCGGGATATAGCGGAAACGCGCGCTTGTGACCA	6275
Dd	9407	CAGCTGATGATGAGGATC---TGCAATGAGCAACCGCGCTGTGTGACCGCGACG	9463	10484	AGAGCGCTTCAGGTAGCTCCCGCGCGGATCCAGTGAAGGGCGAGGCTGTGACCA	10543
Qy	5196	CAAAACCATGCGGTGGCTCGAAGAGTTTCGCCACCGCGCGCAAGCTGTTGTGACCG	5255	6276	GGCCATCGTGCAACATGAAGTAGAGCGCGCTGATCGTGTCTATTTCCGGCACCAATCACT	6335
Dd	9464	CAGACCATGCCAACGCTCGAAAGTTTTCGCCACCGCTGCGAAGCTTTCGACCCGCGC	9523	10544	GACCGTGTGCAACAGGATGAGCAGGCGCATAGACCGCTCATGCCGAGCAATCACT	10603
Qy	5256	ACGGCGGACGACGCTGATGCTGTATGCGTGTGTGCTCACTCGCATGATGATGAT	5315	6336	GCAGCGCCATGCTCTTGACACCGCATATAATCAGCAATCGCCAGTACCGCAACA	6395
Dd	9524	ACCGCGGTAGCTGTGATGCTCTACACCTGTGTGCGCGCTTTCGCGATGAGCTCATTT	9583	10604	GCAGGGCCAAACGCGCGCTGCCACCGCAATCAGCGCATAGCCCGCGCGCAACA	10663
Qy	5316	GGGCAACGCTGGCGAAGCGGCGACGATGCTCGCTGCAAGACGCGGAGGAGCTATG	5375	6396	CCACCGCATAAAGATCGTTGAGCTCAAACTTACCGCTGTGCGGTTTCAATGGTGGACAGAT	6455
Dd	9584	GACCAACCATCGCTTTCGCGAGGCGCGCGCGGAGGAGGAGGAGGAGGAGGAGGAGG	9643	10664	CCACCGCAAGAGATCGTTTGTCTCAATACGCGCTTTCGCGGGGTATGGTGTACTCAT	10723
Qy	5376	CAGCATCTGCAAAATGAAACCCCGCGCGCTTACAGCGCGCGGACATGATGAAACGCG	5435	6456	GCGAGCGCCATCCCAACCGTGTGATGATTTATGCGAGACGCGCGCTACGATTTCCA	6515
Dd	9644	GCCCGGCTGCGACGCTGACCTTGGCGGCGTTTGAAGGGCGGAGATGCGAGGATCCGCG	9703	10724	GCCAGCGCATCCCGAGCGGTGATATGATGCGGTGGTAAACCGCGCGATGCGCTCCA	10783
Qy	5436	TTTAGGCGCTTACGGAAGTGGGATCATTTACAGCTGCGCGCAACATCTGGGCTTTGAT	5495	6516	TCACCAACGCTTGGCAACAGATAA	6542
Dd	9704	TTGCGTTCCTTTCAGGAGGTGGCGCTGACCCACGCTATTACGCGCCCGCATGCGGCTCG	9763	10784	TCGCAATAACGCTCAAGATGACGATTA	10810

RESULT 15

US-10-997-844-6
; Sequence 6, Application US/10997844
; Publication No. US20050124033A1
; GENERAL INFORMATION:
; APPLICANT: Sharpe, Pamela L
; APPLICANT: Bosak, Melissa
; APPLICANT: Teo, Luan
; APPLICANT: Sedkova, Natalia
; APPLICANT: Cheng, Qiong L
; TITLE OF INVENTION: Optimized Bacterial Host Strains of Methylomonas sp. 16A
; FILE REFERENCE: CL-2230 US NA
; CURRENT APPLICATION NUMBER: US/10/997,844
; CURRENT FILING DATE: 2004-11-24
; PRIOR APPLICATION NUMBER: US 60/527,083
; PRIOR FILING DATE: 2003-12-03
; PRIOR APPLICATION NUMBER: US 60/527,877
; PRIOR FILING DATE: 2003-12-08
; NUMBER OF SEQ ID NOS: 53
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 6
; LENGTH: 5632
; TYPE: DNA
; ORGANISM: Pantoea agglomerans
US-10-997-844-6

Query Match 23.7%; Score 1661.4; DB 9; Length 5632;
Best Local Similarity 67.0%; Pred. No. 0;
Matches 2390; Conservative 0; Mismatches 1166; Indels 9; Gaps 2;

QY	2532	AATACGATGATTTGGTGGCTGGAGTGGCGGAAATGCTTGAATGGCGCTGGCTGC	2591
DB	886	AATGGGATCTGATTTGGTGGCGGGGCTGCCAACCGGGCTATCGCTGGCGACTAA	945
QY	2592	GTCAATTGGACGACAACTGAATGCTGTGGAGAGCGATGCGCATCCGGCAGGCA	2651
DB	946	AGCAGGCTATCCGACGCTTGCTGATTAATGCTGGAGTGGCGGAGCGGCCCGGGAA	1005
QY	2652	ATCATACCTGGTGGTTTCATCACAGCGATCTAGCGCGCGAACAACCTTTCGCTGGCTGCAAC	2711
DB	1006	ACCACACCTGGTCTTTCACCAACAGATATACGCCAGCCAGCAGCGCTGGCTGCGC	1065
QY	2712	CGCTGATACCGTGGCTGGTTCAGGTATCAGGTGGTTTTCTTGGCTGGCGGCAATC	2771
DB	1066	CGTGGTGGCCCATCGCTGGGACGGGTACGACGTCCACTTTCCGAAACGTGTCGCGACCC	1125
QY	2772	TGACCGGGATTTGTTCCATCGCATCAGCGGATTTTGGCCGCCATCTTTACCGCGCA	2831
DB	1126	TGATGACGGTACCTGACCATCACCTCCACGGGTTTTGCCAAGCGATCGCGGGCTGA	1185
QY	2832	TGGGTGACGATCTGTGGACAAACACAGCCGTACACAGGTAAACCCACCGAGTGACGC	2891
DB	1186	TGAAGAGAATTTGCTGACAAACGTGACCGTGTACCGGGTGAGCGGCGAGGAAGTAACCC	1245
QY	2892	TGGCGGATGGCGGTGAACCTTGTGCGCAAGTGGTATGATGGTGGCGGCTGACGCGGA	2951
DB	1246	TCAGCGACGACACGCTTTTACCGCGGGCGGGTGAATTTGATGGCGCGGCTATCAGCCCT	1305
QY	2952	CGCCACATCTGACGCTGGGTTATCAGGTGTTCTTGGACAAGAGTGGCAGCTGGCGCAGC	3011
DB	1306	CGCGGACCTCAGCATTTGGCTATCAGCGTTTCATCGCCAGGAGTGGCAACTGACCGCGC	1365
QY	3012	CGCACGGCTGACGACGCGGATCTGATGATGCCACCGCTCGATCGACAAAGCGGGTTATC	3071
DB	1366	CCACCGGTTAAGCGCGCGCATCTGATGATGCGCCGCTCGCCAGGGCAACGCGTACC	1425
QY	3072	GTTTTGTCTACGCTGGCTCAGCGCGATCGGCTATTGATTTGAAGATACCATTAACG	3131
DB	1426	GCTTTGTCTATACCTTCCGCTCAGCGCCGACACCTTGTCTATCGAAGACACGCACTACA	1485
QY	3132	TTAACGACCGCGCTGGCGGAGAACACCGCTGGTTCAGACATCGCCGCACTATGCCAATC	3191
DB	1486	TTGACGGCCCGACGCTCGACGCGGATTTACGCGCGCGCGGATTTGCCGATTAACGCCGCC	1545

QY	3192	AGCAAGCTTGGACGCTGTGATACGCTGCTGGTGAAGAGCAGCGCATATTACCGATTACCC	3251
DB	1546	AGCAGGGCTGGCAGCTTGGCGGCTGGTGGTGAAGAACAGGGGGGCTGCCCATCACCC	1605
QY	3252	TGAGCGCAACATCGATCGATTCTGCAACAGCAGCGCGGCAAGGCTGAGCGGCTGC	3311
DB	1606	TGTCGGCGATCGCGCGGCTTCTGGCAACAGTTCATCATCAGCGGCTGAGCGGCTGC	1665
QY	3312	GGCGCGGCTGTTTCAATGCACACCGGTTACTCTTGGCGCTGGCGCTGGCGTAGCGG	3371
DB	1666	GGCGCGGCTGTTTCAATGCACACCGGCTATTCTGGTGGCGCTGGCGTTGGCTGGCG	1725
QY	3372	AGTTGGTAGCAGCGCTGTTGGCCACCGATGCCCTCAGCTCAGCCACACATATCGAACGT	3431
DB	1726	ACCGCATTCGCAACGCGCGGAGCTGATCAGGGCGGCTCTATCAGCTGATCGCGATT	1785
QY	3432	TTGCCGCTGAGCAGTGGCGGACAGGATTTTTCGCTGCTGCTAAACCGCATGCTGTTT	3491
DB	1786	TCGCGGCGGCCACTGGCAGACACACGCTTTTTCGCGCTGCTTAACCGCATGCTTTTC	1845
QY	3492	TGGCGGTTAAGCGCGCAGCAGCGTGGCGGCTGATGCAACGTTTTTTTACCGCTCGATCCG	3551
DB	1846	TGGCGCGCACACCGCAGCGCTGGCGGCTGATGACGCGTTTTTACCAGTTGACGAGC	1905
QY	3552	GGTTAATTAGCGCTTTTACCGCGGCAACTGGCGCTGGCGATATAAAACGCGGATTCTGT	3611
DB	1906	AGCTGATCGCGGCTTTTATGCGCGCAGCTTTCGCTCCGCGCAGCGCGCGCTGTGTC	1965
QY	3612	GGGCAAGCGCGGTCGCTCGGTAAGCGCTGGCGGCTGTTT-----GAATTCG	3665
DB	1966	TTGGCAACCGCGGCTGGCGATTGTGGGCGGATCAAGCGCTGCTCCACATCAITCTT	2025
QY	3666	TCGAAACAGGGAAGAAAAATGAACGCACTTATGTGATTTGGCGCAGGCTTTGGCGGCT	3725
DB	2026	CTCTGCGAGCCCATCATTAATGAACAACCATTTGATTTGGCGCGGTTTCGCGGACT	2085
QY	3726	GGCGTGGCGATTTCGCTGCAAGCGCGGCGATACCAACCACTTATCTCAGCAGCGCGA	3785
DB	2086	GGCGTGGCGATTTCGCTGCAAGCGCGGCGATTCCTACCACTGCTGAGAGCGCGA	2145
QY	3786	CAAAACCGCGGACGCGCTATGTTTGAAGACAGTGGCTTACCTTCGATGCGCGAC	3845
DB	2146	CAAAACCGCGGCGCGGCTATGCTACGAAGATCGCGGCTTTACCTTTGATCGGGTCC	2205
QY	3846	CAGCGTATCACCGATCCAGCGCCATCGAAGAGTTGTTCCAGCTGCGAGGAATCGCT	3905
DB	2206	CACCGTCATCACCGATCCCTCGCCATTGAGGAGCTGTTCCACCTCGCGGAAAAACGCT	2265
QY	3906	CAGCGATTAGCTGAGCTGATGCGGTAACGCGCTTCTATCGCTGCTGCTGGGAAGATGG	3965
DB	2266	GAAGGACTACGTTGAGCTGATGCGGTAACGCGCTTCTATCGCTGCTGCTGGGAAGACG	2325
QY	3966	CAAAACAGCTTGATTAGCAATAATCAGCGCTGCTGGAGCAGCATGCCAGTTCAA	4025
DB	2326	CAAGGTTTTCGACTACGCCAACGATCAGGCGGCGCTGAGTCGAGATCGCGGTTTAA	2385
QY	4026	TCCGCAAGATGTAGAAGGCTATCGTCAATTTCTTGCCTATTACGCTGAAAGTATTAGAGA	4085
DB	2386	CCCGAACGAGCTGGCGGCTATCACCGTCTCTCGACTCCCGCGGCGGTTTGGCGA	2445
QY	4086	GGGTTATCTGAACCTCGGCAAGCTGCGGTTTTCGAGGTTGCGTGAATGCTGCGCGTGC	4145
DB	2446	AGGCTATCTGAAGCTCGGCGGCTGCGGTTTCTCTCGTTTTCGCGCATGCTGCGCGCG	2505
QY	4146	GCCGCAAGTTGGGACGCTGCAACATGGCGCGCTCTACAGCATGCTGCGGAAATTTAT	4205
DB	2506	TCCTCAACTGGCGGCTGCGGCAATGGCGCAGCTGTACGAAAGTGTGCGGCTACGT	2565
QY	4206	TCAGGACGATCATCTGCGTCAAGCGTTTTTCTTCCATCTCATTTGCTGGTGGCGTAAATC	4265
DB	2566	GGAAGACGAGCACTGCGGCGAGGCAATTTTCGTTTCACTCGCTGCTGCTGGCGGCAACCC	2625

QY 4266 TTTTGCACGTCATCGATCTATACCTTAATTCATGCGTCGAGCGTGAATGGGGCGTGTG 4325
DB |||||
DB 2626 GTTCTCCACGCTCTTCTATTTTACACCTTGATCCACGCGCTGGAGCGGGAATGGGGCGTCTG 2685
QY 4326 GTTTCGCGCGGCGGACCGCGCGCTGTGTGACGGGATGCGCGCATGTGTTGAGAGACTT 4385
DB |||||
DB 2686 GTTTCGCGCGGCGGCGGACCGCGCGCTGTGTGACGGGATGTTGTTTCAAGGATCT 2745
QY 4386 GGGCGGCGAGCTGTGTACTGTAATGCGGAAGTGAGCGAGCTGGAAACACGAGCGCAATCGCAT 4445
DB |||||
DB 2746 TGGCGGACCTTCACCTTAAAGCTCAGGTTGAGCGGCTGGAGACGTTGACAAATCAGGT 2805
QY 4446 TAGCGGCGTTCAAGTAGAGGCGGACGACGCTTCGATGCCCGCTGTGCGCTTCAATGC 4505
DB |||||
DB 2806 GAAAGCGCGTGCATCTGTGTTAAAGCGGACGCGCTGTGAGGCTGCGCGCGTGCCTCGAACGC 2865
QY 4506 CGACGTGGTGCATACCTACGACAACTGCTTCGCGACCATCCGCTGCGCAATGAACGTCG 4565
DB |||||
DB 2866 GAGCGTGGTAAATACCTATGCCGACCTGCTCGGCCATCACCCGACCGCGCTACCGC 2925
QY 4566 GACATCGCTGAAGCGTAAAGCGCATGAGCAACTCGCTGTTGTACTCTATTTTGGCCTGAA 4625
DB |||||
DB 2926 CAAAAGCTGAAGCGACGCGATGAGCAACTCGCTGTTGCTGCTCTATTTTGGCCTGGA 2985
QY 4626 TCAGCGCGCATGAACAGCTCGCGCACCAACGCTCTGTTTGGCCCGGTTATCGTGAGTT 4685
DB |||||
DB 2986 TCACCATCACACCCAGCTGGCGCACCATACCGTCTGCTTGGCCCGGTTATAAAGCGCT 3045
QY 4686 GATCGATGATATTTGAACAGCAGCAGCTGCGGACAGATTTTTCATTTTACCTGACGC 4745
DB |||||
DB 3046 AATCGATGAATTTTCAAGCGCGACACCTGTGTGGAAGATTTTTCGCTCTATCTGCAATG 3105
QY 4746 GCCCTGCGAGCAGCATCCGCTGCTGCGCACCGCGCTGCGGACGCTTTTATGTTGTTAGC 4805
DB |||||
DB 3106 GCCCTGCTGAACCGACCGCTGCTGCGCCCGCGCGGTGCGGAGCTACTATGTGCTCGC 3165
QY 4806 GCCCGTCCGCATCTCGGCAACCGCTGACATCGACTGCGCAACAGGAAGGACCGCGCTTGC 4865
DB |||||
DB 3166 GCCCGTCCGCACCTCGGTTAAGCGCCCGCTCGACTGGAGCGTGGAAAGCGCGTCTGCG 3225
QY 4866 CGATCGAATTTTGTCTTATCTGGAGCAGCACTACGCGCGGATTAAGTCAGCAATTAGT 4925
DB |||||
DB 3226 GSAATCGCAATTTTGAATATCTGAAGCGCGCTATATGCGGGGCTGCGCTCCAGCTGGT 3285
QY 4926 GACACACAGAAATGTTTACGCGCTTTGATTTTTCGACACGCTGATGCCCATCACGCTC 4985
DB |||||
DB 3286 GAGCACCGCATGTTTACGCGGAGATTTTTCGCGATACGCTGATGCCCTGGCAGGGGTC 3345
QY 4986 GCGCTTTTCTGCGAGCCGATTTTTCGCAAAAGCGCTGTTTCGCGCCCGCATAAACCGCA 5045
DB |||||
DB 3346 AGCGTTTTCATGGAGCCGATCTTCAACCGAGAGCGCTGTTTCGCGCGCGCACAAACCGCA 3405
QY 5046 TGGCGATATCAGCAATCTCTATCTGTGGGTGCGGTACGATCGAGCGGGCGGTGCC 5105
DB |||||
DB 3406 CAGCGTGGTTGATAAACCTCTACCTGTGCGCGCGGAAACGATCCCGCGCTGCGCTGCC 3465
QY 5106 CCGCGTATCGGTTTTCGCGCAAGCGCACCGCGAGCTGATCTGAGGATCGCGCGAATG 5165
DB |||||
DB 3466 GGGCGTGTATCGGATCCCGAAGCAACCGGCCAGTTTAAAGGATTTAGCGTAATG 3525
QY 5166 AATCGACAGCCTTTTACTTGAAGCAAGTAAACGCAACCAATGGCGGTGGGCTCGAAGAGTTTC 5225
DB |||||
DB 3526 ---TCCAGCGGCTTCTCGAAGCAGCGCGACCGCATGACCGCGGTTCTTAAAGTTTC 3582
QY 5226 GCCACCGCGCGAAGCTGTTTGTATGACCGAGCGCGCGAGCAGCTGTGATGCTGTATGCG 5285
DB |||||
DB 3583 GCCACCGCTCTCAAAGCTGTTTGAACACGCAACCGCGCGAGCGCTGTATGCTCTATACC 3642
QY 5286 TGTGTGCTCAGCTGCGATGATGTTGATGGCGAAACGCTGCGGCAAGCGGCGACGCGAG 5345
DB |||||
DB 3643 TGTGTGCGCTACTGCGACAGATGTTATCGACGAGCAGGTGTGGGTTTGTGCCCCGACC 3702
QY 5346 CATGCCGTGGAAGACGCGCAGGACGTTATGACAGCATCTGCAAAATTTGAAACCCCGCGGCC 5405

DB 3703 GAGCAGAGCGACACGCGCCGAGGCGCGCTGCAACGGCTGCGTAAGATGACGCGCGCGGCC 3762
QY 5406 TACAGCGCGCGCACATGATGAACCGCGGCTTTTAGGGGCTTTTACGGAAGTGGCGCATATT 5465
DB |||||
DB 3763 TACGACCGGGAACCAATGCAAGACCGCGCTTCCGCCCTTTTACGGAAGTGGCGCTGCC 3822
QY 5466 CACGAGCTGCGCGCAACAACTGGGCTTTGATCATCTGGAAGGCTTCGGCTATGATGATGACGC 5525
DB |||||
DB 3823 CATGCCATTCGCTACTCAGGCTTCGACCACTGGAAGGCTATGATGATGGAAGTGGCG 3882
QY 5526 AACGAAATTTACGCGAGCTTCGATGACACGCTGCTTACTGCTATACGTCGCGGGGTG 5585
DB |||||
DB 3883 AACGAGCGCTATTACAGCTCGATGATACGCTCGCTACTGTTTATCAGTGGCGGGGTG 3942
QY 5586 GTCCGTTTGTATGAGCGCGGCTAAAGGGCGTGGCGACGCAAGCGGTGCTCGATCAGCGC 5645
DB |||||
DB 3943 GTCCGCTGATGATGAGCGGCTGAGGGAGTGGCGGACGAAGCAACGCTGGATCGCGCC 4002
QY 5646 TGGGATTTAGGACTGGCGTTCCAGCTCACTAAATTCGCGCGGACATTTGTAGAAGATGCC 5705
DB |||||
DB 4003 TGGGATCTGGGCTTGGCTTTCAGCTCACCAATATCCGAGGATATCGTTGACGATGCG 4062
QY 5706 GAAATAGTTCGCTGCTATCTGCGCAATCTGCTGCTCGATCAGGCGGATTTACGCGCGCAT 5765
DB |||||
DB 4063 CAGGTGGAGCGCTGCTACTGCGCGCAGCAGTGGCTGGCGGAAGTCGGACTCAATGAACAG 4122
QY 5766 ACCTGACTGCAACGCAACATCGTGCAGCGCTGCTGCTCACTGCGCAGCGCTTTAGTGGCG 5825
DB |||||
DB 4123 ACCTGCAACGCTGCGGGGCAACCGCTGCGCGCTGCGCGCTGCGCAGCGCGCTGTAAC 4182
QY 5826 GAGCGGAACCTTATTATCACTCGCGCGCATCCGCTTACCGGCTTTACCGCTCGCTCG 5885
DB |||||
DB 4183 GAGGCTGAGCCCTTATTATCAGTCAGCGCTTGGCGGGCTGGGGATCTGCCCTGCGCTCC 4242
QY 5886 GCGTGGGCCATCGCTACGCGCTCGCGGCTTTATCGGAAATGCGCGTCAAAAGTTTCAGCAC 5945
DB |||||
DB 4243 GCCTGGCGGATTCGACCGCGCATCGGGTGTATCGTGAGATCGGGGTGAAGTGTCTGATG 4302
QY 5946 GCCGCTGTGACCGCTGGGATTCAGCGCAGCGCACCAAGTAAGGTGAAAGTGGCGCTG 6005
DB |||||
DB 4303 GCGGTTGAAAGAACATGGGATACCCGCGAGGCAACGACGCGCGGAGAGCTGGCGCTG 4362
QY 6006 CTGCTGAAAGGGCGAGGTTTGGCGATCACCTTCGCTGTGTCTGCTCCTGAACCGCGTCG 6065
DB |||||
DB 4363 GTTATTTTCGCGCGGAGGAGGCGATGGCTTCCGGAAGGAGCTGGCGCGCGCGAT 4422
QY 6066 GCTGGTCTGTGGCAGCGTCTCTCGTT 6090
DB |||||
DB 4423 CCGCACCTCTGGCAGCGCGCGCT 4447

Search completed: November 25, 2005, 06:46:52
Job time : 4748 secs

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; PRIOR FILING DATE: 1999-11-09
;
; NUMBER OF SEQ ID NOS: 472
; SOFTWARE: Patentin Ver. 2.1
; SEQ ID NO 223
; LENGTH: 783
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
;
; OTHER INFORMATION: Description:
; - OTHER INFORMATION: nucleic a
US-10-793-626-223

```

	Query Match	0.7%;	Score 47.2;	DB 1;	Length 783;
	Best Local Similarity	47.9%;	Pred. No. 0.0058;		
	Matches 136;	Conservative 0;	Mismatches 148;	Indels 0;	Gaps 0;
QY	550	CTCGATCTCGCCTCTGCAGTGGGAATCGTGCACCGCGCATCGCTGATCTCGGATGACATT	609		
Db	94	CTAAATAGTCTTTAGCATTTGGAAATGATTCATACTTATTCTTTAAATTCATGATGATTTA	153		
QY	610	CCCTCGATGATAACGGCGAGATCGCTCGTGGTCCGCTTACCGGTGCATCGGAATTTGGT	669		
Db	154	CCAGCAATGGATTAATGACGATTACCGTAGAGGAAAATTAACAAAATCAATAAGTTTATGGT	213		
QY	670	GA AAAACGTGCGGATTTCTTCGCGCGCATCGCGCTGCTTAGCGCGCATTTGAAGTGATGGC	729		
Db	214	GAATGGAAAGCCATTCTTGTGCTGTGTCATTATTACAAAGCTTTTGAATTAGTTTCT	273		
QY	730	ATTGCAACCCGGTTTGCTTGCGCATACATAAAATCTGAAGCGATTGCTGAACCTCTCCGCTGCC	789		
Db	274	AATGATACTACCAATTGGAAGATAGTGTGAAAGTAGTATTATAAAGACCTTCCAAGACA	333		
QY	790	GTCCGCTTCAGGGCTTAGTGCAAGGCAATTCAGGATCTGCA	833		
Db	334	AGTGGCACTTTGGGAATGGTTGGGTGGCCAGCGCTTCATATGGA	377		

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RESULT 5
US-10-793-626-4144
; Sequence 4144, Application US/10793626
; Publication No. US20050255478A1
; GENERAL INFORMATION:
; APPLICANT: KIMMERLY, WILLIAM JOHN
; TITLE OF INVENTION: STAPHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS AND PROTEINS
; FILE REFERENCE: PU3480US
; CURRENT APPLICATION NUMBER: US/10/793,626
; CURRENT FILING DATE: 2004-03-04
; PRIOR APPLICATION NUMBER: 60/164,258
; PRIOR FILING DATE: 1999-11-09
; NUMBER OF SEQ ID NOS: 4472
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 4144
; LENGTH: 3444
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: synthetic
; OTHER INFORMATION: nucleic acid sequence
US-10-793-626-4144

```

	Query Watch	0.7%;	Score 47.2;	DB 1;	Length 3444;
	Best Local Similarity	47.9%;	Pred. No. 0.011;		
	Matches 136;	Conservative	0;	Mismatches 148;	Indels 0;
				Gaps	0;
QY	550	CTCGATCTCGCCTGTGCGAGTGGAAATGGTCACGCGGCATCGCTGATTCCTGGATGACATT	609		
Db	958	CTAAATAGTGTCTTAGCATTTGGAATGATTCATACTATTCTTTAAATTCATGATGATTTA	1017		
QY	610	CCCTCCATGATGAACGGCGAGATCGGTCGTGGTGCCTCCGCTGCATCCGGAATTTGGT	669		
Db	1018	CCAGCAATGATTAATGACGATTCAGGTAGAGGAAAATTAACAAATCATAAAGTTTATGGT	1077		
QY	670	GAACAAGTGGCGGATTCCTCGCGCGGCATCGCGCTGCTAGCCGCGCATTTGAAGTGAATGGCC	729		

1078 GAATGGAAGCCATTCTGCTGCTGATGCATTATTAACAAAGCCTTTGAAATTAGTTTCT 1137
 QY
 730 ATTGCACCCGGTTTGCTGTCATACATAATCTGAAGCGATTGCTGAACTCTCCGCTGCC 789
 Db
 1138 AATGATACTACCAATTGGAAGATAGTGTGAAAGTAAGTATTATTAAGAAGACCTTTCAAAGCA 1197
 QY
 790 GTCGGCCTCAGGGCTTAGTGCAAGGGCAATTCAGGATCTGCA 833
 Db
 1198 AGTGGACATTTGCGAATGGTGGGTGCGCAAGCCGCTTGATATGA 1241

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RESULT 6
US-10-793-626-3929/c
; Sequence 3929, Application US/10793626
; Publication No. US20050255478A1
; GENERAL INFORMATION:
; APPLICANT: KIMMERLY, WILLIAM JOHN
; TITLE OF INVENTION: STATHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS AND PROTEINS
; FILE REFERENCE: PU3480US
; CURRENT APPLICATION NUMBER: US/10/793,626
; CURRENT FILING DATE: 2004-03-04
; PRIOR APPLICATION NUMBER: 60/164,258
; PRIOR FILING DATE: 1999-11-09
; NUMBER OF SEQ ID NOS: 4472
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 3929
; LENGTH: 4045
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: synthetic
; OTHER INFORMATION: nucleic acid sequence
US-10-793-626-3929

```

	Query Match	0.7%;	Score 47.2;	DB 1;	Length 4045;
	Best Local Similarity	47.9%;	Pred. No. 0.012;		
	Matches 136;	Conservative 0;	Mismatches 148;	Indels 0;	Gaps 0;
Qy	550	CTCGATCTCGCTGTGCGATGGTGGTGCACGCGGCATCGCTGATTCCTGGATGACATT	609		
Db	2121	CTAAATAGTGCTTTAGCATTTGGAAATGATTTCATCTATTCTTTAAATTCATGATGATTTA	2062		
Qy	610	CCCTCGATGGATAACGCGCAGATGCGTCTGTGGTTCGCCCTACCGTGATCGCGAATTTGGT	669		
Db	2061	CACGCAATGGATTAATGACGATTACCGTAGAGGAAATTAACAAATCATAAAGTTTATGGT	2002		
Qy	670	GAAGCGTGGCGATTCTCGCGGCCATTCGCGCTGCTTAGCGCGGCATTTCGAAGTGATTGCC	729		
Db	2001	GAAATGGAAGCCATCTTCTGCTGATGCAATTATTAACAAAGCTTTTGAATTAGTTTCT	1942		
Qy	730	ATTGCACCCGGTTTGCTGCCATACATAAATCTGAAGCGATTGCTGAATCTCCGCTGCC	789		
Db	1941	AATGATACTACCATTTGAAGATAGTGTGAAAGTAAGTATTATAAAAAGACTTTTCAAAGCA	1882		
Qy	790	GTGCGGCTCAGGGCTTAGTGCAGAGGGCAATTCACAGGATCTGCA	833		
Db	1881	AGTGACATTTGGGAATGTGGGTGGCCAAAGGCTTGTATATGA	1838		

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RESULT 7
US-10-802-796-427
; Sequence 427, Application US/10802796
; Publication No. US20050250104A1
; GENERAL INFORMATION:
; APPLICANT: COLE, STEWART
; APPLICANT: BUCHRIESER-BROSCH, ROLAND
; APPLICANT: GORDON, STEPHEN
; APPLICANT: BILLAULT, ALAIN
; TITLE OF INVENTION: A METHOD FOR ISOLATING A POLYNUCLEOTIDE OF INTEREST
; TITLE OF INVENTION: FROM THE GENOME OF A MYCOBACTERIUM USING A BAC-BASED
; TITLE OF INVENTION: DNA LIBRARY, APPLICATION TO THE DETECTION OF
; TITLE OF INVENTION: MYCOBACTERIA.

```

FILE REFERENCE: 05394.0011-00000
CURRENT APPLICATION NUMBER: US/10/802,796
PRIOR FILING DATE: 2004-03-18
PRIOR APPLICATION NUMBER: US/09/673,476
PRIOR FILING DATE: 2002-03-29
PRIOR APPLICATION NUMBER: PCT/IB99/00740
PRIOR FILING DATE: 1999-04-16
PRIOR APPLICATION NUMBER: 09/060,756
PRIOR FILING DATE: 1998-04-16
NUMBER OF SEQ ID NOS: 743
SOFTWARE: PatentIn Ver. 2.2
SEQ ID NO 427
LENGTH: 346
TYPE: DNA
ORGANISM: Mycobacterium tuberculosis
FEATURE:
NAME/KEY: modified_base
LOCATION: (188)
OTHER INFORMATION: a, t, c or g
FEATURE:
NAME/KEY: modified_base
LOCATION: (226)
OTHER INFORMATION: a, t, c or g
US-10-802-796-427

Query Match 0.6%; Score 42.2; DB 1; Length 346;
Best Local Similarity 59.7%; Pred. No. 0.081;
Matches 71; Conservative 0; Mismatches 48; Indels 0; Gaps 0;
Qy 5641 ACGCTCGGATTAGGATCGCTTCAGCTCACTAATTCGCGCGACATTTGTAGAAG 5700
Db 16 ACGCGAGAGTTGGGAATGCTCTGAGCAACCATATCTGCGGAGGTTGAGAGG 75
Qy 5701 ATCCGGAATATGTCGCTGCTATCTCGCGCAATCTCGCTGATTCAGCGCGGATTACGC 5759
Db 76 ACTTTTGAATGACGAGTCTACCTCGCGCGAGCTGGACCGATTAGCGGTACGC 134

RESULT 8
US-10-858-730-32
Sequence 32, Application US/10858730
Publication No. US20050255568A1
GENERAL INFORMATION:
APPLICANT: Bailey, Richard B.
APPLICANT: Blomquist, Paul
APPLICANT: Doten, Reed
APPLICANT: Driggers, Edward M.
APPLICANT: Madden, Kevin T.
APPLICANT: O'Leary, Jessica
APPLICANT: O'Toole, George
APPLICANT: Trueheart, Joshua
APPLICANT: Walbridge, Michael J.
APPLICANT: Yorgey, Peter S.
TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR AMINO ACID
TITLE OF INVENTION: PRODUCTION
FILE REFERENCE: 14184-030001
CURRENT APPLICATION NUMBER: US/10/858,730
CURRENT FILING DATE: 2004-06-01
PRIOR APPLICATION NUMBER: US 60/475,000
PRIOR FILING DATE: 2003-05-30
PRIOR APPLICATION NUMBER: US 60/551,860
PRIOR FILING DATE: 2004-03-10
NUMBER OF SEQ ID NOS: 364
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 32
LENGTH: 1278
TYPE: DNA
ORGANISM: Streptomyces coelicolor
US-10-858-730-32

Query Match 0.6%; Score 41.2; DB 1; Length 1278;
Best Local Similarity 56.7%; Pred. No. 0.26;
Matches 76; Conservative 0; Mismatches 58; Indels 0; Gaps 0;

Qy 5018 GCGCTGGTTCCGCGCATACCGCATGCGATATCAGCAATCTCTATCTGTTGGTGG 5077
Db 1004 GATCGGCTTCGACTGCTGCGCTAGCAGCACAGATCGCAGATCTCGTGGTGGCG 1063
Qy 5078 CCGGTACGCATCCAGCGCGCGGCGTCCCGCGGTGATCGGTTCCGCAAGGCCACCGCCA 5137
Db 1064 CCGGTATGAAGACCAATCCGCGCGTCCACCGCGACTTCTTTCACCGGCTCTCCGAGCGCG 1123
Qy 5138 GGCTGATGCTGGAG 5151
Db 1124 GCGTGAACATCGAG 1137

RESULT 9

US-11-077-550-137
Sequence 137, Application US/11077550
Publication No. US20050244435A1
GENERAL INFORMATION:
APPLICANT: Shone, Clifford Charles
APPLICANT: Quinn, Conrad Padraig
APPLICANT: Foster, Keith Alan
APPLICANT: Chaddock, John
APPLICANT: Marks, Philip
APPLICANT: Sutton, J. Mark
APPLICANT: Stancombe, Patrick
APPLICANT: Wayne, Jonathan
TITLE OF INVENTION: Recombinant Toxin Fragments
FILE REFERENCE: 1581.0130004
CURRENT APPLICATION NUMBER: US/11/077,550
CURRENT FILING DATE: 2005-03-11
PRIOR APPLICATION NUMBER: 10/241,596
PRIOR FILING DATE: 2002-09-12
PRIOR APPLICATION NUMBER: 09/255,829
PRIOR FILING DATE: 1999-02-23
PRIOR APPLICATION NUMBER: PCT/GB97/02273
PRIOR FILING DATE: 1997-08-22
PRIOR APPLICATION NUMBER: 08/782,893
PRIOR FILING DATE: 1996-12-27
PRIOR APPLICATION NUMBER: GB9625996.5
PRIOR FILING DATE: 1996-12-13
PRIOR APPLICATION NUMBER: GB9617671.4
PRIOR FILING DATE: 1996-08-23
NUMBER OF SEQ ID NOS: 179
SOFTWARE: PatentIn version 3.1
SEQ ID NO 137
LENGTH: 5558
TYPE: DNA
ORGANISM: Clostridium botulinum
US-11-077-550-137

Query Match 0.6%; Score 40.4; DB 9; Length 5558;
Best Local Similarity 54.8%; Pred. No. 0.8;
Matches 80; Conservative 0; Mismatches 66; Indels 0; Gaps 0;
Qy 6835 TCAATTTATCGGCATCTCTATCCAAAGCTTTGCAATGAATTCGACGATCGCAGCAG 6894
Db 2720 TCAATATCTCCGCTCTGTTAAGCACCAACCATGAGATGAAGCCGCTGCTGCTGCGCG 2779
Qy 6895 AAAGATGGAAGCGTGAACACAGTGAAGTTTGAGGAACTCAATCGCATAACCGAAGAGC 6954
Db 2780 AACCTGGAAGCGGAATATCAGGAAGGATGCTGAGTGGCCGCTTTATTGAATGA 2839
Qy 6955 ACGGTTTATGTCGGATGAATACAGG 6980
Db 2840 ACGGCTCTTTTGTGACGAGAACAGG 2865

RESULT 10

US-10-858-730-31
Sequence 31, Application US/10858730
Publication No. US20050255568A1
GENERAL INFORMATION:

APPLICANT: Bailey, Richard B.
APPLICANT: Blomquist, Paul
APPLICANT: Doten, Reed
APPLICANT: Driggers, Edward M.
APPLICANT: Madden, Kevin T.
APPLICANT: O'Leary, Jessica
APPLICANT: O'Toole, George
APPLICANT: Trueheart, Joshua
APPLICANT: Walbridge, Michael J.
APPLICANT: Yorgev, Peter S.
TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR AMINO ACID
PRODUCTION
FILE REFERENCE: 14184-030001
CURRENT APPLICATION NUMBER: US/10/858,730
PRIOR FILING DATE: 2004-06-01
PRIOR APPLICATION NUMBER: US 60/475,000
PRIOR FILING DATE: 2003-05-30
PRIOR APPLICATION NUMBER: US 60/551,860
PRIOR FILING DATE: 2004-03-10
NUMBER OF SEQ ID NOS: 364
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 31
LENGTH: 1266
TYPE: DNA
ORGANISM: Amycolatopsis mediterranei
US-10-858-730-31

Query Match 0.6%; Score 39.6; DB 1; Length 1266;
Best Local Similarity 49.5%; Pred. No. 0.68; Indels 0; Gaps 0;
Matches 102; Conservative 0; Mismatches 104; Indels 0; Gaps 0;
QY 4330 CCGCGCGCGGACCGCGCGCTGGTGCAGGGCATGGCGGACTGTTCGAGGACTTGGGC 4389
DB 352 CCGAGCGGTTCACCGAGCGCTCGACAGGGGTACATCGCGCTGGTGGCGGCTTCAG 411
QY 4390 GCGAGCTGTACTGAATGCGGAAGTGAAGCAGTGAACACCGCGCAATCGATTAGC 4449
DB 412 GCGGTGCGCGAGGACACCAAGGACATCACCACGCTGGCGCGCGCTCGGACACCA 471
QY 4450 GCGTTCAGTTAGAGGCGGACGAGCTTCGATGCCCGCGCTGGCGCTCCATGCCGAC 4509
DB 472 GCGGTGCGCTGGCGCGCGCTGAAACGCGGACGCTGCGGAGATCTACTCGATGCGAC 531
QY 4510 GTGTGTCATACCTACGACAAACTGCT 4535
DB 532 GGTGTGTACAGCGGACCGCGGCT 557

RESULT 11
US-10-793-626-3998/c
Sequence 3998, Application US/10793626
Publication No. US20050255478A1
GENERAL INFORMATION:
APPLICANT: KIMMERLY, WILLIAM JOHN
TITLE OF INVENTION: STAPHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS AND PROTEINS
FILE REFERENCE: PU3480US
CURRENT APPLICATION NUMBER: US/10/793,626
PRIOR FILING DATE: 2004-03-04
PRIOR APPLICATION NUMBER: 60/164,258
PRIOR FILING DATE: 1999-11-09
NUMBER OF SEQ ID NOS: 4472
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 3998
LENGTH: 3454
TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: synthetic
OTHER INFORMATION: nucleic acid sequence
US-10-793-626-3998

Query Match 0.6%; Score 39.6; DB 1; Length 3454;
Best Local Similarity 54.9%; Pred. No. 1.1;

Matches 78; Conservative 0; Mismatches 64; Indels 0; Gaps 0;
QY 550 CTCGATCTCGCTGTGCAATGCTGCACCGCATCGCTGATTCTCGATGACATT 609
DB 165 CTAATAGTCTTTAGCAATTTGGAATGATTCATACCTATTCTTTAATTCATGATTTA 106
QY 610 CCCTCGATGATAACGCGCAGATGCTGCTGGTGCCTACCGTGCATCGCAATTTGGT 669
DB 105 CCAGCAATGATAATGACGATTACCGTAGAGGAAATAACCAATCATAAAGTTTATGGT 46
QY 670 GAAAACGTGGGATTCTCGCG 691
DB 45 GAATGGAAGCCATTCTTGTG 24

RESULT 12
US-11-152-747-3
Sequence 3, Application US/11152747
Publication No. US20050251881A1
GENERAL INFORMATION:
APPLICANT: E. I. du Pont de Nemours, Inc.
APPLICANT: Cheng, Qiong
APPLICANT: Tao, Luan
TITLE OF INVENTION: CAROTENOID KETOLASE GENE
FILE REFERENCE: CL-1849 US NA
CURRENT APPLICATION NUMBER: US/11/152,747
CURRENT FILING DATE: 2005-06-14
PRIOR APPLICATION NUMBER:
PRIOR FILING DATE:
NUMBER OF SEQ ID NOS: 47
SOFTWARE: Microsoft Office 97
SEQ ID NO 3
LENGTH: 1536
TYPE: DNA
ORGANISM: Deinococcus radiodurans R1
US-11-152-747-3

Query Match 0.5%; Score 38.4; DB 7; Length 1536;
Best Local Similarity 48.2%; Pred. No. 1.5;
Matches 108; Conservative 0; Mismatches 116; Indels 0; Gaps 0;
QY 4297 CATGCGCTGAGCGTGAATGGGCGTGTGTTTCGCGCGCGGCGCACCGCGCGCTGGT 4356
DB 634 CACCGCTCTACCAAGAGCGCGTGGCGGCGCCAAAGGCGGACGCGCGCTGACC 693
QY 4357 CAGGCGATGCGCGACTGTTTCGAGGACTTGGCGGCGGAGCTGTTACTGAATGCCAAGTG 4416
DB 694 AAAGCCCTGCGCGCGGCGCACCGAGCGGCGGAGGTCTTACCGACGCGCGGTC 753
QY 4417 AGCAGCTGGAACACCGCGCAATTCGATTAGCGCGCTTCAGTTAGAGGCGGACGACGC 4476
DB 754 AAGGAATTCGTGTCAGAGCGCAAGGCGCAGGCGATCCGCTGGAAAGCGGCGACG 813
QY 4477 TTCGATGCCCGCTGTGGCTCCAAATGCCGACGTGGTGCATAC 4520
DB 814 TACACCGCGCGCGCTGCTGGGCGTCCACATCTGACCAC 857

RESULT 13
US-10-802-796-545
Sequence 545, Application US/10802796
Publication No. US20050250104A1
GENERAL INFORMATION:
APPLICANT: COLE, STEWART
APPLICANT: BUCHRIER-BROSCH, ROLAND
APPLICANT: GORDON, STEPHEN
APPLICANT: BILLAULT, ALAIN
TITLE OF INVENTION: A METHOD FOR ISOLATING A POLYNUCLEOTIDE OF INTEREST
FROM THE GENOME OF A MYCOBACTERIUM USING A BAC-BASED
TITLE OF INVENTION: DNA LIBRARY. APPLICATION TO THE DETECTION OF
MYCOBACTERIA.
FILE REFERENCE: 05394.0011-00000
CURRENT APPLICATION NUMBER: US/10/802,796

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; CURRENT FILING DATE: 2004-03-18
; PRIOR APPLICATION NUMBER: US/09/673,476
; PRIOR FILING DATE: 2002-03-29
; PRIOR APPLICATION NUMBER: PCT/IB99/00740
; PRIOR FILING DATE: 1999-04-16
; PRIOR APPLICATION NUMBER: 09/060,756
; PRIOR FILING DATE: 1998-04-16
; NUMBER OF SEQ ID NOS: 743
; SOFTWARE: PatentIn Ver. 2.2
; SEQ ID NO 545
; LENGTH: 425
; TYPE: DNA
; ORGANISM: Mycobacterium tuberculosis
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (30)
; OTHER INFORMATION: a, t, c or g
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (57)
; OTHER INFORMATION: a, t, c or g
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (111)
; OTHER INFORMATION: a, t, c or g
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (180)
; OTHER INFORMATION: a, t, c or g
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (185)
; OTHER INFORMATION: a, t, c or g
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (197)
; OTHER INFORMATION: a, t, c or g
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (288)
; OTHER INFORMATION: a, t, c or g
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (356)
; OTHER INFORMATION: a, t, c or g
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (359)
; OTHER INFORMATION: a, t, c or g
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (385)
; OTHER INFORMATION: a, t, c or g
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (402)
; OTHER INFORMATION: a, t, c or g
; OTHER INFORMATION: a, t, c or g
US-10-802-796-545

Query Match 0.5%; Score 38.2; DB 1; Length 425;
Best Local Similarity 58.2%; Pred. No. 0.97;
Matches 64; Conservative 0; Mismatches 46; Indels 0; Gaps 0;

Qy 5650 ATTPTAGCTGGCGTTTCAGCTCACTAACATGTCGCGCGACATGTGTAGAAGATCCGAAA 5709
Db 3 AGTTGGGAATCGCTCTGCGAGCAACCAANTATTCTGCGGACGTTTCGAGAGGACTNTTTGA 62

Qy 5710 ATGTCGCTGCTATCTCGCGCAATCTTGGCTCGATCAGCGCGGATTACGC 5759
Db 63 ATGGACGGATCTACCTCGCGCGACGAGCTGGACCGATTAGCGGTACNC 112

RESULT 14

US-10-392-234A-49/c
; Sequence 49, Application US/10392234A
; Publication No. US2005025538A1
; GENERAL INFORMATION:
; APPLICANT: Pharmacia and Upjohn Corporation
; APPLICANT: Buxser, Steven
; APPLICANT: Poole, Keith
; APPLICANT: Decker, Douglas
; APPLICANT: Xiaozhi Li
; TITLE OF INVENTION: Method for Screening for acrAB Transporter Family Inhibitors
; FILE REFERENCE: 6206
; CURRENT APPLICATION NUMBER: US/10/392,234A
; CURRENT FILING DATE: 2003-03-17
; PRIOR APPLICATION NUMBER: US 60/364,935
; PRIOR FILING DATE: 2002-03-15
; NUMBER OF SEQ ID NOS: 67
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 49
; LENGTH: 1176
; TYPE: DNA
; ORGANISM: Pseudomonas aeruginosa
US-10-392-234A-49

Query Match 0.5%; Score 37.4; DB 1; Length 1176;
Best Local Similarity 48.4%; Pred. No. 2.4;
Matches 104; Conservative 0; Mismatches 111; Indels 0; Gaps 0;

Qy 972 CTTCCGCCAGGATTTGGCCAGCGGTTTCACTGTCTGAGGACCTGCCGACGGTTGCAA 1031
Db 559 CGTCGCGCGGATGTTTCGGCAGCCACAAACCCAGCGCGGCGGCGCGA 500

Qy 1032 ACACACGGTAAAGATGTGCACCAGGATCAGGCGCAATCCACGCTGTACAGATGCTCGG 1091
Db 499 ACAGGGTTCAGGACAGCAAGATCGATTGCCAGCCCTGCCAGTCAGAGCGGCCCGG 440

Qy 1092 TGCTGACGGCGCGAAACGTCCTGCGCGATCACTGCGCAGGCGGAGATCCACACCTTGC 1151
Db 439 CCAGGGGGGAGGATCGGGCCAGGCCCATCACCAGCATCAACTGGGAAAACGCTTGG 380

Qy 1152 CTGCGCCTGCCATCGCGGATCGCCACTGCCCAAT 1186
Db 379 CGGCGCGATCGGATCGCACAGGTACGCACTACT 345

RESULT 15

US-11-054-385-3
; Sequence 3, Application US/11054385
; Publication No. US20050257291A1
; GENERAL INFORMATION:
; APPLICANT: MIZUTANI, Masako
; APPLICANT: TANAKA, Yoshikazu
; APPLICANT: KUSUMI, Takaaki
; APPLICANT: SAITO, Kazuki
; APPLICANT: YAMAZAKI, Mami
; APPLICANT: ZHIZHONG, Gong
; TITLE OF INVENTION: GENES ENCODING PROTEINS HAVING TRANSGLYCOSYLATION
; FILE REFERENCE: 001560-350
; CURRENT APPLICATION NUMBER: US/11/054,385
; CURRENT FILING DATE: 2005-02-10
; PRIOR APPLICATION NUMBER: US/09/147,955
; PRIOR FILING DATE: 1999-03-24
; PRIOR APPLICATION NUMBER: PCT/JP98/03199
; PRIOR FILING DATE: 1998-07-16
; PRIOR APPLICATION NUMBER: JP 9-200571
; PRIOR FILING DATE: 1997-07-25
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 3
; LENGTH: 1474
; TYPE: DNA
; ORGANISM: Perilla frutescens
; FEATURE:
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